



RIVER NAR EUTROPHICATION STUDY

AQUATIC MACROPHYTE SURVEY

FINAL

6 JULY 1994

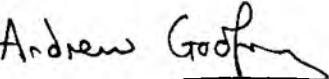
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CONTENTS

	Page
SUMMARY	
1 INTRODUCTION	1
2 METHODS	1
2.1 Fieldwork	1
2.2 Analysis	3
3 RESULTS	4
3.1 Introduction	4
3.2 Brief Site Descriptions	4
3.3 Plant Scores	8
3.4 Average Score per Taxon	8
3.5 Plant Community Description	8
4 DISCUSSION	8
4.1 Introduction	8
4.2 Evaluation of Survey Strategy	9
4.2.1 TWINSPAN	9
4.2.2 River Type	10
4.3 Comparison with Previous Data	11
4.4 Evaluation of Eutrophication	12
4.4.1 Present Degree of Eutrophication	12
4.4.2 Changes in Eutrophication	13
5 RECOMMENDATIONS FOR MACROPHYTE MONITORING	14
6 CONCLUSIONS	15
7 REFERENCES	16

CONTENTS cont

	Page
APPENDICES	17
Appendix 1	
Table 1	Plant Scores
Table 2	Average Score Per Taxon (ASPT)
Table 3	Plant Community Description (PCD)
Table 4	TWINSPAN Plant Community Description
Table 5	TWINSPAN Plant Community Distribution
Table 6	Comparison of River Type For Each Sample Length at Each Site
Table 7	Comparison of Aquatic Macrophyte Records
Table 8	Comparison of Plant Communities Through TWINSPAN Analysis
Table 9	Comparison of River Type
Table 10	Recommended Programme of Monitoring River Nar
Appendix 2	Macrophyte Records
Appendix 3	Habitat Maps and Habitat Features Records
Appendix 4	Photographic Slides
FIGURES	
Figure 1	The Location of the River Nar
Figure 2	The Location of the Aquatic Macrophyte Survey Sites

SUMMARY

Ecosurveys Ltd was commissioned by NRA Anglian Region to undertake surveys of aquatic macrophytes at 17 sites along the River Nar SSSI in West Norfolk in order to assess the degree of eutrophication of the river; to compare 1993 macrophyte records with earlier data; to make an assessment of macrophyte sampling strategy; and to make recommendations for macrophyte monitoring.

At each sample site, macrophyte records were made separately for 0.01, 0.1 and 0.5km reaches, sketch habitat maps were drawn and representative photographs taken. The macrophyte records were used to calculate the Plant Score and Average Score per Taxon, to produce the Plant Community Description and to assess the River Type and as input to a TWINSPAN analysis. Comparisons were made with the NRA REDS River Nar data and with English Nature survey data.

The evaluation of survey strategy using TWINSPAN analysis of the 1993 0.01, 0.1 and 0.5km sample length macrophyte records showed that the known nature of the River Nar was best described using the 0.5km sample length. The evaluation of survey strategy using River Type, also showed that the 0.5km sample length provided the most accurate picture of the nature of the River Nar.

The comparison of macrophyte data from the River Nar 1993, 1990 and 1981-82 surveys was hampered by the restriction of the 1990 survey to the main river length and by the paucity of records from the 1981-82 survey. Despite this, where the 1990 and 1993 surveys covered the same length of river, there was good agreement between species recorded by these two surveys.

In the evaluation of eutrophication, the present degree of eutrophication was shown to vary along the river, with suggestions that controlling factors might include the Sewage Treatment Works and run-off from adjacent intensively managed grassland, although anomalies were present. The assessment of changes in eutrophication using TWINSPAN analysis of macrophytes recorded in 1993 and 1981-82 reached no conclusion due to the paucity of record from 1981-82. The same assessment made using River Type as assigned from an analysis of 1993 and 1981-82 macrophyte records was similarly hampered.

Recommendations are made for monitoring the eutrophication levels and changes of the River Nar using 0.5km sample lengths and repeating the 1993 survey using the same techniques at 5 year intervals, with, in the years between, surveys targeted towards indicator species.

RIVER NAR EUTROPHICATION STUDY AQUATIC MACROPHYTE SURVEY

1 INTRODUCTION

Ecosurveys Ltd has been commissioned by National Rivers Authority Anglian Region to carry out an Aquatic Macrophyte Survey of sites along the River Nar from Litcham to Kings Lynn in North Norfolk. The aims of the survey were:

- to ascertain the level of eutrophication in the River Nar;
- to compare the present day river macrophyte flora with earlier data;
- to make an assessment of macrophyte sampling strategy; and
- to make recommendations for monitoring macrophytes of the River Nar.

The location of the River Nar is shown in Figure 1.

The methods used for field survey and to analyse the results obtained are described in section 2, and the results of these analyses are given in section 3. These results and other aspects of the study are discussed in section 4 and recommendations for future monitoring based on this study are given in section 5. Sections 6 and 7 give conclusions and a reference list respectively.

2 METHODS

2.1 FIELDWORK

The objectives of the field survey were to produce macrophyte records, photographic records and sketch habitat maps for the 17 sites which are listed below and shown in Figure 2.

The fieldwork was undertaken according to method 'B' of the HMSO publication "Methods of the Use of Aquatic Macrophytes for Assessing Water Quality, 1985-86". In this method the following activities were undertaken at each 0.5km sample site, with the first 0.01km and 0.1km in each 0.5km sample length each receiving a separate survey:

- the aquatic macrophytes were recorded, working from the banks and using bridge and a boat where appropriate, to ensure full coverage of the channel;

- in the macrophyte recording, two semi-quantitative estimates of plant abundance were used, firstly Relative Abundance (a straight forward comparison of the relative amount of one macrophyte species against all other macrophyte species in the defined survey length) and, secondly, Percentage Cover (a subjective estimate of the % area of river covered by each macrophyte species within the defined survey length). The scale of values for Relative Abundance used increases from 1 to 5, as follows: 1 = very sparse, 2 = sparse, 3 = moderate, 4 = abundant and 5 = very abundant. The scale of values used for Percentage Cover was Scale A, whereby A1 = < 0.1% cover, A2 = 0.1-1%, A3 = 1-5%, A4 = 5-10% and A5 = > 10%. The values for Relative Abundance and Percentage Cover were entered onto a macrophyte recording form, adapted from the HMSO publication to cater for 0.01, 0.1 and 0.5km sample lengths;
- habitat features such as width, depth, substrates river habitats (ie pool, slacks, riffles and fast deep water) and degree of shading were recorded for each 0.01, 0.1 and 0.5km sample length at each 0.5km long sample station, using a habitat features recording form, adapted from the HMSO publication to cater for the three sample lengths;
- a sketch habitat map was drawn for each 0.5km survey site and habitat features were recorded, according to an adaptation of the NRA river corridor survey method (NRA 1992); and
- photographs (colour slides) were taken of each survey site, these being representative of the habitats and general nature of each 0.01, 0.1 and 0.5km survey lengths.

SITE NO	SITE LOCATION	GRID REFERENCE
1	King's Lynn	TF622 183
2	Setchey Bridge	TF636 134
3	High Bridge, Blackborough (Nar)	TF672 135
4	Ashwood Lodge, Nr Petney (Nar)	TF725 121
5	Narborough West (Trib)	TF747 133
6	Narborough West (Nar)	TF746 134
7	Narborough North-East	TF765 143
8	West Acre, South	TF779 148
9	Peddar's Way Ford, Castle Acre	TF816 145
10	Church Farm, Newton	TF827 154
11	A1065 Nr West Lexham	TF838 170
12	East Lexham	TF859 169
13	Lexham Hall (Nar)	TF870 168
14	Litcham (below Priory)	TF886 173
15	Bridge Farm, Litcham	TF892 172
16	Below Litcham Sewage Works	TF892 175
17	Drury Square, Litcham	TF893 176

2.2 ANALYSIS

The analysis of the macrophyte data comprised the following:

- an analysis of the macrophyte data from the 1993 0.01, 0.1 and 0.5km sample lengths in order to evaluate survey strategy. This analysis was undertaken in two ways. Firstly by using TWINSPAN to classify the plant communities. TWINSPAN is a divisive polythetic method of classification (that is, it starts with the samples in one group and splits them up, using a rule which takes into account a plurality of their attributes rather than just one), based on the reciprocal averaging method of ordination; it thus combines the two major forms of multivariate analysis. The VESPA II package (Malloch, 1988) was selected for use in this part of the analysis and from this suite, TWINSPAN (Hill, *et al*, 1975 and Hill, 1979) was chosen as having most relevance to the River Nar project. It also has a history of use in classifying river plant communities (eg Holmes, 1983). Secondly, the evaluation of survey strategy was also undertaken by comparing the River Types determined by the macrophyte records from 0.01, 0.1 and 0.5km reaches according to the method given in Holmes (1983). This work describes and evaluates the results of a Great Britain-wide survey whose aim was to produce a classification of flowing water according to their macrophyte flora. A key to River Types is provided and the macrophyte records from the 0.01, 0.1 and 0.5km reaches were taken through this key;
- a comparison of macrophyte records from the River Nar made in 1993 by Ecosurveys Ltd, to those made in 1990 by NRA Rivers Environmental Database System survey and in 1981-82 by the Nature Conservancy Council (now English Nature), in order to ascertain changes in this aspect of the river;
- the calculation of the Plant Score by summing the individual scores assigned to each species recorded from the 1993 0.01, 0.1 and 0.5km reaches. The scores for each species are given in HMSO (1986), with those species unable to tolerate pollution being assigned a high value (maximum of 10, eg *Myriophyllum alterniflorum*), and those able to tolerate pollution being assigned a low value (minimum of 1, eg *Agrostis stolonifera*). The Plant Score is a parallel system to the BMWP invertebrate score, and in both, high total scores reflect both the presence of pollution sensitive species and greater species diversity;
- the calculation of the Average Score per Taxon by dividing the Plant Score by the number of individual macrophyte score values contributing to the Plant Score. The Average Score per Taxon aids comparison and interpretation of Plant Score values by removing the element of survey effort (ie where a greater length of river surveyed usually results in more species recorded hence a greater Plant Score) and by removing the influence of factors which may elevate or lower the Plant Score (eg shading, unusually high or low habitat diversity, etc); and

- the assignation of a Plant Community Description (PCD) to the macrophyte data from the 1993 0.01, 0.1 and 0.5km survey reaches. The Plant Community Description is a standardised shorthand description of the relative abundance of important macrophyte taxa within a defined survey length, based on the area of river bed covered by four groups (a-d), where a = all bryophytes excluding *Amblystegium riparium* and *Fontinalis antipyretica*; b = all rooted angiosperms excluding *Potamogeton pectinatus*; c = *Cladophora* spp; and d = *Potamogeton pectinatus* and/or blue-green algae films and/or *Stigeoclonium* spp and/or *Vaucheria* spp and/or *Amblystegium riparium*. The rules for the assignation of a particular Plant Community Description to a survey reach are given in HMSO (1986).

3 RESULTS

3.1 INTRODUCTION

The results of the field survey are presented in the form of individual site descriptions with the macrophyte record cards, sketch habitat maps and habitat features and photographic slides given in Appendices 2, 3 and 4 respectively. The site descriptions provide information on the broad nature of the channel, adjacent land use and bank habitats with dominant species.

The results of the calculations of Plant Score, Average Score per Taxon and Plant Community descriptions are given in Tables 1, 2 and 3 respectively.

3.2 BRIEF SITE DESCRIPTIONS

SITE NO 1

A curving section of river with arable on both sides.

Both banks are dominated by coarse grasses and tall herbs including *Arrhenatherum elatius*, *Urtica dioica* and *Dactylis glomerata*.

There are a few scattered trees and scrub on the left including *Alnus glutinosa*, *Acer pseudoplatanus*, *Crataegus monogyna* and *Rubus fruticosus*.

SITE NO 2

A curving section of river with a road to the left and industry on the right.

Both banks are dominated by coarse grasses and tall herbs including *Arrhenatherum elatius*, *Dactylis glomerata* and *Rubus fruticosus*.

An open section apart from a few scattered *Crataegus monogyna* and *Populus* sp downstream on the left.

SITE NO 3

A curving section of river with arable to the left, semi-improved pasture to the right.

Both open banks are dominated by *Arrhenatherum elatius*, *Dactylis glomerata*, *Urtica dioica* and *Plantago lanceolata*.

SITE NO 4

A gently curving section with arable and semi-improved pasture to the left, semi-improved pasture to the right.

Upstream, the left bank is shaded by *Alnus glutinosa* and *Crataegus monogyna*. Elsewhere, both banks are dominated by coarse grasses and tall herbs including *Urtica dioica*, *Arrhenatherum elatius* and *Dactylis glomerata* with occasional isolated *Alnus glutinosa* and *Crataegus monogyna* downstream.

SITE NO 5

An almost straight section of river with industry and semi-improved grassland to the left; and a public house and industry to the right.

Upstream both banks are artificial and sparsely vegetated with *Urtica dioica*, *Rubus fruticosus* and *Hedera helix*.

In midsection, where buildings cross the river, the artificial banks have no vegetation.

Downstream, the left bank is dominated by grasses and herbs including *Lolium perenne*, *Trifolium repens*, *Epilobium hirsutum* and *Urtica dioica* with scattered *Alnus glutinosa*, *Sambucus nigra* and *Prunus* sp. The downstream right bank is frequently shaded by *Alnus glutinosa* with *Sambucus nigra*.

SITE NO 6

A curving section with semi-improved pasture to the left and semi-improved pasture, beyond a parallel drain, to the right.

Both open banks are dominated by coarse grasses and tall herbs including *Urtica dioica*, *Arrhenatherum elatius* and *Dactylis glomerata*.

SITE NO 7

A curving section of river with woodland on both sides.

A shaded section in which the banks are dominated by *Urtica dioica* with occasional trees and scrub including *Aesculus hippocastanum*, *Fraxinus excelsior* and *Corylus avellana*.

SITE NO 8

A gently curving section of river with semi-improved grassland and broadleaved woodland on the left and semi-improved pasture, gardens and broadleaved woodland on the right.

Both banks are frequently shaded by *Alnus glutinosa*, *Crataegus monogyna*, *Sambucus nigra* and *Fraxinus excelsior*. Open areas have coarse grasses and tall herbs including *Urtica dioica*, *Dactylis glomerata* and *Glechoma hederacea*.

SITE NO 9

A curving section of river with semi-improved grassland and tall herbs to the left, semi-improved grassland to the right.

Upstream the left bank is shaded by *Alnus glutinosa*, *Crataegus monogyna*, *Quercus robur* and *Corylus avellana*. Downstream the bank is dominated by coarse grasses and tall herbs including *Arrhenatherum elatius*, *Urtica dioica* and *Dactylis glomerata* with scattered *Alnus glutinosa*.

The right bank is dominated by grazed *Dactylis glomerata*, *Holcus lanatus* and *Lolium perenne* with scattered *Crataegus monogyna*, *Alnus glutinosa* and *Salix* sp.

SITE NO 10

A curving section of river with scrub and semi-improved grassland to the left and tall herbs/sedge fen and semi-improved grassland to the right.

Upstream the left bank is dominated by scrub and tall herbs including *Epilobium hirsutum* and *Urtica dioica* with a solitary *Fraxinus excelsior*.

Upstream on the right and downstream both banks are open and dominated by grasses and herbs including *Lolium perenne*, *Dactylis glomerata* and *Ranunculus repens*.

SITE NO 11

A gently meandering section of river with semi-improved grassland on both sides.

Both open banks are grazed and poached and dominated by *Lolium perenne*, *Urtica dioica* and *Holcus lanatus*.

SITE NO 12

A gently curving section of river with tall herbs, poplar woodland and young planted trees to the left and semi-improved grassland, poplar woodland and arable to the right.

Both banks are frequently shaded by *Quercus robur*, *Salix* sp, *Populus* sp and *Rubus fruticosus* over tall herbs including *Urtica dioica*.

SITE NO 13

A curving section of river with semi-improved grassland to the left and broadleaved woodland to the right.

The left bank is dominated by coarse grasses and tall herbs including *Urtica dioica*, *Arrhenatherum elatius* and *Lolium perenne* with frequent scattered *Acer pseudoplatanus*, *Salix* sp, *Quercus robur*, *Crataegus monogyna* and *Alnus glutinosa*.

The right bank is shaded by *Alnus glutinosa*, *Salix* sp, *Crataegus monogyna*, *Quercus robur*, *Rosa* sp and *Rubus fruticosus* over *Urtica dioica* and *Epilobium hirsutum*.

SITE NO 14

A gently curving section of river with improved grassland and tall herbs to the left and semi-improved grassland to the right.

Both banks are dominated by tall herbs and occasional coarse grasses, including *Urtica dioica*, *Epilobium hirsutum* and *Arrhenatherum elatius*, with scattered *Alnus glutinosa*, *Crataegus monogyna*, *Rosa* sp and *Quercus robur*.

SITE NO 15

A gently curving section of river with semi-improved grassland to the left and a Sewage Treatment Works, broadleaved woodland and semi-improved grassland to the right.

Upstream the left bank is shaded by *Salix* sp, *Crataegus monogyna*, *Rosa* agg and *Malus sylvestris*. Downstream the bank is dominated by tall herbs and coarse grasses including *Arrhenatherum elatius*, *Urtica dioica* and *Dactylis glomerata*.

Upstream the right bank is dominated by *Urtica dioica*. In midsection the bank is shaded by *Sambucus nigra*, *Crataegus monogyna* and *Salix* sp. Downstream the open bank has short herbs and grasses including *Lolium perenne*, *Ranunculus repens* and *Agrostis stolonifera*.

SITE NO 16

A gently curving section of river with allotments, gardens and semi-improved grassland to the left and semi-improved grassland and garden to the right.

Upstream the open left bank is dominated by *Lolium perenne*, *Ranunculus repens* and *Agrostis stolonifera*. Downstream, the bank is shaded by *Alnus glutinosa*, *Fraxinus excelsior*, *Sambucus nigra* and *Rosa* agg.

The right bank is frequently shaded by *Sambucus nigra*, *Fraxinus excelsior*, *Alnus glutinosa*, *Salix* sp, *Rubus fruticosus* and *Prunus spinosa*.

SITE NO 17

A curving section of river with semi-improved grassland on both sides.

Both banks are dominated by grazed *Lolium perenne*, *Bellis perennis* and *Plantago lanceolata* with frequent *Alnus glutinosa*, *Rosa* sp, *Betula pendula* and *Rubus fruticosus*.

3.3 PLANT SCORES

The Plant Score is simply the sum of individual scores assigned to each species recorded, according to HMSO (1986). It will therefore almost inevitably increase with length of river surveyed - ie with survey effort. The results are given in Table 1.

3.4 AVERAGE SCORE PER TAXON (ASPT)

The ASPT is the Plant Score divided by the number of species which have contributed to the Plant Score. It is thus much less dependent on survey effort. The results are shown in Table 2.

3.5 PLANT COMMUNITY DESCRIPTION (PCD)

The PCD is a standardised shorthand description of the relative abundance of important macrophyte taxa within a defined survey length. The taxa chosen are those indicative of certain water quality aspects. The results are shown in Table 3. In this Table bb indicates a plant community dominated by rooted angiosperms (other than *Potamogeton pectinatus*) and bd indicates a plant community with (but not dominated by) rooted angiosperms (other than *Potamogeton pectinatus*).

4 DISCUSSION

4.1 INTRODUCTION

The following discussion incorporates:

- an assessment of the advantages and disadvantages of undertaking macrophyte surveys over different sample lengths using as a basis for the discussion Eutrophication values, River Type and TWINSPAN analysis
- a comparison of macrophyte species recorded from surveys of the River Nar undertaken in 1981-82, 1990 and 1993 based on indicator species and the presence or absence of pollution sensitive/ tolerant species; and
- an evaluation of the present degree of eutrophication at each site and along the river using Eutrophication values and an assessment of changes in eutrophication over time by a comparison between the 1993 data and data from 1981-82 using River Type and by TWINSPAN analysis.

The surveys of the River Nar undertaken in 1981-82, 1990 and 1993 were carried out using different methodologies to achieve different objectives and were applied to mostly different sites; whilst a few sites from different surveys correspond closely to each other most do not and it is therefore difficult to match any with a high degree of confidence.

4.2 EVALUATION OF SURVEY STRATEGY

4.2.1 TWINSPAN

The TWINSPAN analysis of the 1993 macrophyte data identified five plant communities (Tables 4 and 5).

The 0.01km sample sites fall into four plant communities (A, C, D and E). The upstream sites (12-17) have plant groups A and D which are characterised by *Urtica dioica* and *Solanum dulcamara*, and by *Apium nodiflorum*, *Myosotis scorpioides* and *Rorippa nasturtium-aquaticum* respectively, reflecting the narrow, species-poor, ditch-like stretches. Midsection sites (5-11) are divided between groups D and E (E is characterised by *Myriophyllum spicatum* and *Potamogeton pectinatus*). In the downstream sites (1-4), the river has groups C and E indicating deepening, widening and slowing of the river with a clay substrate reflected by the presence of *Potamogeton perfoliatus*, *Polygonum amphibium* and *Sparganium emersum*.

The 0.1km sample lengths also fall into four plant communities (A, B1, B2 and C). In the upstream sites (11-17) the river has group A, again indicating that the broad nature of the river is one of a species-poor, ditch-like channel. Midway, from sites 4-11, there is a mosaic of communities B1 and B2, which are typically slow flowing stretches with a chalk substrate, illustrated by the presence of *Ranunculus penicillatus* var *calcareous*, *Potamogeton lucens* and *Berula erecta*. Downstream, (sites 1-3), the channel becomes deep, wide and slow flowing and is characterised by community C with *Sparganium emersum*, *Carex riparia*, *Polygonum amphibium*, *Potamogeton perfoliatus* and *Ceratophyllum demersum*.

The 0.5km sample sites again fall into the four plant communities A, B1, B2 and C. Upstream (sites 12-17) the river is characterised by group A; the midsection plant community distribution is more clearly defined than from the 0.1km sample sites, with group B2 from site 9-11 and B1 from site 4-8 marking a clearer succession from a chalky slow to moderately flowing clay river. Downstream (sites 1-3) the river is again community C.

By comparing the plant community distributions derived from each sample length, a broad transition can be identified from upstream to downstream. The 0.01km sample lengths illustrate this transition but fail to define communities (B1 and B2) in the middle sections as being calcareous. In addition, the communities defined by this sample length have a more random distribution than given by the other sample lengths, due to either atypical local conditions or to an insufficient sample length to adequately record the representative macrophytes of each community.

The 0.1km sample lengths illustrate reasonably well the community transition from an upstream ditch-like, species-poor channel, to the middle stretch chalk river and downstream to a slow, clay river. However, the chalk communities in middle stretch appear to have a random distribution rather than the linear transition that would be expected.

The 0.5km sample lengths show a clearly defined transition from upstream ditch-like, species-poor channel, to middle stretch chalk river, to a slower, wider chalk river, and finally downstream to a sluggish, clay river.

In view of the poor picture of the River Nar's known plant community nature, the 0.01km stretches are deemed unreliable as survey lengths as they do not cover a sufficient variety of habitats and are subject to atypical local factors such as shading and disturbance of species. The 0.1km sample stretches provide a good indication of plant community distribution but are less accurate than the 0.5km lengths. The 0.5km length most accurately describes the plant community distribution and therefore on these grounds is deemed the best sample length.

4.2.2 RIVER TYPE

The determination of which River Type any given section of river falls into is controlled by the presence and relative abundance of marginal, submerged and floating macrophytes (Holmes, 1983). The River Type for each sample length at each sample site is shown in Table 6.

The shortest sampling length (0.01km) may not record some macrophyte species, if they occur in discrete patches or stands, where the distance between the stands is > 10m. This factor may be especially important if a river section is locally lined with trees and shrubs. These, if on the south side of the channel will shade the aquatic flora, potentially altering its composition in favour of more shade tolerant species, compared to where there is no shade, or it may eliminate aquatic plants altogether. The determination of the River Type from such a sample may therefore give an erroneous impression of the nature of the river. The same would happen if the 0.01km sample length was atypical in other ways. It may be, for instance, the only part where stock have access, or have no access; it may have artificial banks, or be the only riffled area of flow, in an otherwise smoothly flowing slack river.

This mis-classification is seen in the determination of River Type A1i by the 0.01km sample length at site 11. River Type A1i is characteristic of man-made channels in tidal reaches, but as the site 11 is some distance inland from Kings Lynn, this is clearly erroneous. What is happening in this case, is the small sample size has resulted in a limited species list, which simulates the species-poor nature of River Type A1i. The provision thus of misleading classification indicates that a sample length of 0.01km is too small for the accurate determination of River Type.

A comparison between the River Types determined by recording over 0.1 and 0.5km sample lengths reveals however a broad agreement.

The River Type for sites 3, 4, 6-10 and 12-17 given by the two sample lengths are identical. The differences in River Type given by the two sample lengths for sites 1 and 2 can be considered relatively minor. The 0.1km length gives Type A1i for these sites, whereas the 0.5km length gives A1v and A1iii. Type A1i is characteristic of man-made channels in tidal reaches and it has a poor flora; type A1v is characteristic of East Anglian Fen Rivers fed by calcareous water, particularly their lower reaches, where the flora is only of moderate richness; and A1iii is characteristic of highly managed unstable sand rivers, which are fairly species-poor. These types are relatively closely related (see Holmes, 1983, Table 4) in terms of their flora.

At site 5, the 0.1km sample length gave river type A4iv (neutral-acid ditches), whereas the 0.5km length gave A3iii (small silted, enriched chalk streams). A4iv seems to be almost a 'dustbin' category; Holmes (1983) describes it as one for small highly managed streams on neutral geology, and he admits it to be a "strange admix" community, which is species-poor. A3iii in contrast describes quite well the nature of the River Nar at this point.

At site 11, the 0.1km sample length gave river type A1iii (see above), whereas the 0.5km length gave A2i (highly managed clay rivers with soft limestone in the catchment). These two types share a common impoverishment of their flora due to management and a disturbed substrate, thus the two are relatively closely related (Holmes, 1983).

Thus, there would seem to be only minor discrepancies between the 0.1 and 0.5km sample lengths, but given that only the River Types produced by surveying in 0.5km stretches included any in category A3 (chalk rivers and streams), it would appear that the 0.5km length comes closer to presenting the 'true' picture of the River Nar's aquatic macrophyte communities than the 0.1km length.

4.3 COMPARISON WITH PREVIOUS DATA

Table 7 compares a range of species recorded during the Ecosurveys Ltd Aquatic Macrophyte Survey (1993-0.5km sample lengths), NRA REDS (1990), and English Nature River Nar Survey (1981-82).

The species chosen are those which are indicative of different river conditions including slow flow, a deep channel, chalk and clay substrates as well as pollution sensitive and pollution tolerant species.

The NRA REDS (1990) survey only provides records downstream of Narborough (corresponding to site 5 of the Ecosurveys Ltd data and site 22 of the English Nature data), hence the absence of records from this survey for *Berula erecta* and *Hippuris vulgaris* as these all occur only further upstream. Apart from the absence of bryophyte records, the NRA data closely matches Ecosurveys Ltd data, with the only notable exception being the absence of *Groenlandia densa*, from the latter.

The English Nature data shows little similarity to the later data sets. Most of the instream submerged macrophytes are unrecorded, with the exception of *Ranunculus* sp. The presence of *Apium inundatum* exclusively in the English Nature data and absence of *Potamogeton pectinatus*, present in the Ecosurveys Ltd and NRA data, may indicate that the river has become more eutrophic.

It seems unlikely however that the macrophyte flora has changed so dramatically between the English Nature and Ecosurveys Ltd surveys. More likely is that the English Nature macrophyte records are not as comprehensive and therefore comparability is limited. For comparability, any data collected in the future should be recorded as thoroughly as the Ecosurveys Ltd survey and should include species identification of bryophytes.

4.4 EVALUATION OF EUTROPHICATION

4.4.1 PRESENT DEGREE OF EUTROPHICATION

Eutrophication values calculated for each sample length at each site are given in Appendix 1. In this table, eutrophication values are represented by two indices, an amalgamation of plant score and plant community description (PS/PCD), and the average score per taxon (ASPT).

Plant score is a simple measure of diversity and it caters for the presence of pollution sensitive macrophytes. The higher the species diversity and the more abundant the pollution sensitive species, the greater the plant score. Plant community description gives an indication of the dominant plant groups. Average score per taxon gives a value of pollution sensitivity based on the particular plant species contributing to the plant score.

The data shows no marked patterns along the length of the river. Local variations in values occur at sites 1 and 2 which have high PS/PCD for the 0.5km samples. This indicates a community with high diversity and the presence of pollution sensitive species dominated by rooted angiosperms indicating a low degree of eutrophication. These sites correspond to the broad sluggish clay sections flowing into Kings Lynn. The upstream sites 12, 13 and 14 have a low PS/PCD indicating low diversity and absence of pollution sensitive species typical of eutrophication situations. However sites 12 and 13 are heavily shaded and have virtually no aquatic macrophyte vegetation thus contributing to their low values, providing a potentially misleading picture of the river's eutrophication. Site 14 runs through improved and semi-improved pastures, where fertilizer run-off could lead locally to eutrophication of the river. Site 15 runs past a sewage treatment works, and this site and the adjacent site downstream, have lower PS/PCD than the adjacent site upstream, site 17, indicating a higher degree of eutrophication in 15 and 16, which is doubtless due to the sewage works effluent.

The values for ASPT show little variation along the whole length of the river. This may be due in part to the data used to calculate plant score being based on scores devised from macrophyte records following surveys in north-west England (HMSO 1986). Plants in the River Nar such as *Oenanthe flaviatilis* and *Hippuris vulgaris* were not included, and the data can therefore only provide a superficial assessment of the present level of eutrophication. In addition, the plant scores are based on communities that have developed as a result of conditions in north-west England, which are very different from those in North Norfolk.

4.4.2 CHANGES IN EUTROPHICATION

Changes in eutrophication have been assessed by comparing Ecosurveys Ltd data with English Nature data, using 0.5km sample lengths. TWINSPLAN analysis and River Typing (according to Holmes, 1983) were carried out on both sets of data to identify any changes in the macrophyte communities.

Table 8 compares results of TWINSPLAN analysis for both data sets. The Ecosurveys Ltd data shows a plant community succession from upstream narrow, ditch-like streams (community A) to a chalk based river midway (communities B1 and B2), to a sluggish, deep, clay river downstream (community C). The English Nature data shows to some extent the same broad succession, group B1, a slower flowing chalk community and group C, the sluggish clay lower reaches, are not included. This may be due to the limited aquatic macrophyte records from English Nature even though the sample size was greater. In the upstream sections, Ecosurveys Ltd sites 12-17, English Nature sites a-3 and 5-10 both sets correspond closely. This is due to the narrow range of species found in these situations leading to ease of classification. The English Nature data has site 40-40a classified as being in group A (narrow, species poor, ditch-like communities); however this is an urban stretch and is more likely to be a species poor version of the sites which are assigned to group D. Group D represents assemblages of common plants with no clear affinity to specific river conditions. The remaining English Nature sites have been classified into group B2, due to the presence of chalk indicator species such as *Berula erecta* and *Hippuris vulgaris*. Overall however it is difficult to make any firm assessment of changes in eutrophication due to the disparities in the data sets.

Table 9 shows River Types determined from Ecosurveys Ltd and English Nature data based on 500m sample lengths.

Both data sets shows the varying conditions of the river including different substrates, from chalk (A3iii and A3ii), to clay (A2i), and morphological changes. However there is little comparability between the two and there is an almost random distribution of River Types within each data set. This is largely due to the presence or absence recording of key species essential to the typing of the river, which is obviously a sensitive process. Comparing the data to assess any changes in eutrophication is difficult as the river types frequently appear to be misclassified.

No clear changes in the degree of eutrophication are identifiable by using River Typing probably on account of the different data arising from the 1993 and 1981-82 surveys and because of the sensitivity of classifying River Types, which often hinges on the presence of one species.

5 RECOMMENDATIONS FOR MACROPHYTE MONITORING

To monitor the degree of eutrophication and hence any changes, it would be advisable to carry out a regular survey programme at 5 year intervals (Table 10). Method 'B' of "Methods of Use of Aquatic Macrophytes for Assessing Water Quality", as used in this study, should be repeated at fixed sites along the river with a 0.5km sample length for the reasons outlined in the discussion. Following the programme a high degree of consistency can be achieved and a more objective analysis and evaluation of the degree of eutrophication and any changes can be made.

In addition an annual 'visual' survey could be carried out at key sites along the river if required. These sample sites should incorporate both stretches that are representative of the various plant communities and also stretches that may be vulnerable to pollution incidents such as those near the sewage treatment works and those in urban areas, for example through Kings Lynn and Narborough. The survey would involve a quick search for indicator species, such as *Berula erecta*, *Hippuris vulgaris* and *Ranunculus penicillatus* var *calcareous* in the chalk stretches, *Ceratophyllum demersum*, *Sparganium emersum* and *Potamogeton perfoliatus* in the sluggish clay stretches, pollution sensitive species including *Oenanthe fluviatilis* and *Aneura pinguis* and pollution tolerant species such as *Potamogeton pectinatus* and *Ambystegium riparium*.

6 CONCLUSIONS

The Ecosurveys Ltd (1993) Aquatic Macrophyte Survey of the River Nar was carried out using three sample lengths, 0.01km, 0.1km and 0.5km at each of the 17 sites chosen. The aim of this was to assess the most suitable sample size for future surveys on this river and elsewhere, to achieve a balance between effort and return. The 0.01km sample length was found to be unsuitable as it was too frequently affected by local conditions such as shading or disturbance and the macrophyte list was too short to make reliable classifications. The 0.1km sample length provide a good indication of the general nature of the aquatic macrophyte flora but was thought not sensitive enough to accurately define plant communities. The 0.5km sample length provided an accurate representation of the river in terms of plant communities and therefore is the most suitable sample length to use.

Ecosurveys Ltd data was compared to 1990 NRA data and English Nature data. However, these three sets of data were recorded from different sites and by different methodologies. Macrophyte recording was also inconsistent, which resulted in classifications only being applicable to the set of data they were applied to and not comparable to each other. In comparing the data the only reasonable conclusions to be made were that any further surveys should be carried out in a consistent manner to a standard methodology.

The River Nar is a species-poor, clay ditch upstream, then a chalk stream in its middle reaches, becoming a sluggish clay river downstream. The presence midway to downstream, of species such as *Oenanthe fluviatilis*, *Hippuris vulgaris* and *Berula erecta* indicate mesotrophic to eutrophic conditions. The presence of *Potamogeton pectinatus* in the downstream sites close to Kings Lynn indicates that these stretches are probably more eutrophic due to nutrient loading. Upstream the channel is dominated by communities represented by *Urtica dioica* and *Solanum dulcamara*. These correspond to the eutrophic ditch-like channels running through farmland.

To assess any further changes in eutrophication it is necessary therefore to carry out a programme of monitoring, using the 0.5km sample lengths, and following the methodology adopted by Ecosurveys Ltd 1993,

7 REFERENCES

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APPENDIX 1

TABLES 1-10

TABLE 1
PLANT SCORES

SITE NO	SURVEY LENGTH (km)		
	0.01	0.1	0.5
1	46	79	100
2	57	60	104
3	44	61	83
4	29	54	55
5	18	30	56
6	43	53	89
7	24	39	48
8	21	57	71
9	55	81	85
10	27	60	67
11	50	64	88
12	17	17	31
13	17	17	43
14	2	20	30
15	34	38	57
16	49	54	57
17	60	71	80

TABLE 2
AVERAGE SCORE PER TAXON (ASPT)

SITE NO	SURVEY LENGTH (km)		
	0.01	0.1	0.5
1	4.60	4.16	4.35
2	4.38	4.28	4.00
3	3.66	3.38	3.77
4	4.83	4.90	4.58
5	4.50	3.75	4.00
6	5.37	4.41	4.45
7	4.00	2.60	2.66
8	3.50	3.80	3.94
9	4.23	4.26	4.25
10	4.50	5.00	4.18
11	4.16	4.26	4.19
12	5.66	5.66	4.36
13	4.25	4.25	3.90
14	2.00	4.00	3.75
15	5.66	5.43	4.75
16	4.45	4.15	4.07
17	4.28	3.94	4.00

TABLE 3
PLANT COMMUNITY DESCRIPTION

SITE NO	1			2			3			4		
SAMPLE NO % GROUP	0.01	0.1	0.5	0.01	0.1	0.5	0.01	0.1	0.5	0.01	0.1	0.5
A	-	-	-	-	-	-	-	-	-	-	-	-
B	4	5	5	4	5	5	4	4	5	3	4	5
C	-	-	-	-	-	-	-	-	-	-	-	-
D	1	1	1	2	2	2	1	1	2	-	-	1
Community description	bb	bb	bb									

SITE NO	5			6			7			8		
SAMPLE NO % GROUP	0.01	0.1	0.5	0.01	0.1	0.5	0.01	0.1	0.5	0.01	0.1	0.5
A	-	-	-	-	-	-	1	1	1	-	1	1
B	3	3	5	4	4	5	3	3	4	3	4	5
C	-	-	-	-	-	-	-	-	-	-	-	-
D	1	1	1	-	1	1	-	-	-	1	1	1
Community description	bg	bb	bb	bb	bb	bb	bb	bb	bb	bb	bb	bb

SITE NO	9			10			11			12		
SAMPLE NO % GROUP	0.01	0.1	0.5	0.01	0.1	0.5	0.01	0.1	0.5	0.01	0.1	0.5
A	-	-	-	-	-	-	1	1	1	-	-	1
B	5	5	5	5	5	5	5	5	5	3	3	5
C	-	-	-	-	-	-	-	-	-	-	-	-
D	2	1	1	-	5	4	1	1	1	-	-	-
Community description	bb	bb	bb	bb	bd	bb	bb	bb	bb	bb	bb	bb

TABLE 3 cont

PLANT COMMUNITY DESCRIPTION

SITE NO	13			14			15			16			17		
SAMPLE NO % GROUP	0.01	0.1	0.5	0.01	0.1	0.5	0.01	0.1	0.5	0.01	0.1	0.5	0.01	0.1	0.5
A	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1
B	4	3	4	5	5	5	4	3	4	4	4	4	5	5	5
C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
Community description	bb	bb	bb	bd	bd	bb									

TABLE 4
TWINSPAN PLANT COMMUNITY DESCRIPTION

COMMUNITY	A	B1	B2	C	D	E
Plant Species Characteristic or Indicative	<i>Urtica dioica,</i> <i>Solanum dulcamara</i>	<i>Ranunculus penicillatus</i> var <i>calcareous</i> <i>Potamogeton perfoliatus,</i> <i>Glyceria maxima</i>	<i>Hippuris vulgaris,</i> <i>Oenanthe fluviatilis,</i> <i>Potamogeton pectinatus,</i> <i>Myriophyllum spicatum,</i> <i>Berula erecta</i>	<i>Ceratophyllum demersum,</i> <i>Carex riparia,</i> <i>Sparganium emersum,</i> <i>Potamogeton perfoliatus,</i> <i>Polygonum amphibium</i>	<i>Apium nodiflorum,</i> <i>Myosotis scorpioides,</i> <i>Roripa nasturtium-aquaticum</i>	<i>Myriophyllum spicatum,</i> <i>Potamogeton pectinatus</i>
SAMPLE LENGTHS	SITE NOS					
0.01km	12, 13, 14, 15	-	-	2, 3, 4	7, 9, 10, 11, 16, 17	1, 5, 6, 8
0.1km	11, 12, 13, 14, 15, 16, 17	6, 7, 9, 10	4, 5, 8	1, 2, 3	-	-
0.5km	12, 13, 14, 15, 16, 17	4, 5, 6, 7, 8	9, 10, 11	1, 2, 3	-	-

TABLE 5
TWINSPAN PLANT COMMUNITY DISTRIBUTION

SITE NO	SAMPLE LENGTH (km)		
	0.01	0.1	0.5
1 (downstream end)	E	C	C
2	C	C	C
3	C	C	C
4	C	B2	B1
5	E	B2	B1
6	E	B1	B1
7	D	B1	B1
8	E	B2	B1
9	D	B1	B2
10	D	B1	B2
11	D	A	B2
12	A	A	A
13	A	A	A
14	A	A	A
15	A	A	A
16	D	A	A
17 (upstream end)	D	A	A

TABLE 6
COMPARISON OF RIVER TYPE FOR EACH
SAMPLE LENGTH AT EACH SITE

SITE NO	SAMPLE LENGTH (km)		
	0.01	0.1	0.5
1	A1i	A1i	A1v
2	A1i	A1i	A1iii
3	A1i	A1i	A1i
4	A4iii	A4iii	A4iii
5	A4ii	A4iv	A3iii
6	A4iv	A4iv	A4iv
7	A4iv	A2i	A2i
8	A2i	A2i	A2i
9	A1iii	A1iii	A1iii
10	A4iii	A2i	A2i
11	A1i	A1iii	A2i
12	A4ii	A4ii	A4ii
13	A4ii	A4ii	A4ii
14	A4ii	A4ii	A4ii
15	A4iii	A4iii	A4iii
16	A4iii	A4i	A4i
17	A4iii	A4iii	A4iii

TABLE 7
COMPARISON OF AQUATIC MACROPHYTE RECORDS

SPECIES	ECOSURVEYS (1993)	REDS (1990)	ENGLISH NATURE (1981-82)
<i>Apium inundatum</i>	-	-	+
<i>Berula erecta</i>	+	-	+
<i>Carex paniculata</i>	+	-	+
<i>Ceratophyllum demersum</i>	+	+	-
<i>Elodea canadensis</i>	-	+	-
<i>Groenlandia densa</i>	-	+	-
<i>Hippuris vulgaris</i>	+	-	+
<i>Myriophyllum spicatum</i>	+	+	-
<i>Oenanthe fluviatilis</i>	+	+	-
<i>Potamogeton berchtoldii</i>	+	-	-
<i>Potamogeton crispus</i>	+	+	-
<i>Potamogeton pectinatus</i>	+	+	-
<i>Potamogeton perfoliatus</i>	+	+	-
<i>Ranunculus aquatilis</i>	-	+	-
<i>Ranunculus fluitans</i>	+	-	+
<i>Ranunculus penicillatus</i> var <i>calcareous</i>	+	+	+
<i>Sagittaria sagittifolia</i>	+	+	-
<i>Sparganium emersum</i>	+	+	-
Bryophytes	identified to species	not part of survey	recorded - but not identified to species

- * Data only available downstream of Narborough from TF621 180, which is the upstream main river limit
- + Present
- Absent

TABLE 8

COMPARISON OF PLANT COMMUNITIES THROUGH TWINSPLAN ANALYSIS

ECOSURVEYS (1993) SITE NO	COMMUNITY	ENGLISH NATURE (1981-82) SITE NO	COMMUNITY
1	C	40-40a	A
2	C	-	-
3	C	30-30a	D
-	-	29a-30	D
-	-	27-17a	D
4	B1	-	-
5	B1	21-21a	B2
6	B1	22-22a	D
7	B1	20a-21	B2
8	B1	19a-20	B2
-	-	19-19a	B2
-	-	18a-19	B2
-	-	18-18a	B2
9	B2	17a-18	B2
-	-	17-17a	B2
-	-	16a-17	B2
-	-	16-16a	B2
-	-	15a-16	B2
-	-	15-15a	B2
-	-	14a-15	B2
-	-	14-14a	B2
-	-	13a-14	B2
10	B2	13-13a	B2
-	-	12a-13	B2
11	B2	12-12a	B2
-	-	11a-12	B2
-	-	11-11a	B2

TABLE 8 cont

COMPARISON OF PLANT COMMUNITIES THROUGH TWINSPLAN ANALYSIS

ECOSURVEYS (1993) SITE NO	COMMUNITY	ENGLISH NATURE (1981-82) SITE NO	COMMUNITY
12	A	10-10a	B2
-	-	9a-10	A
-	-	9-9a	A
-	-	8-8a	A
13	A	7a-8	A
-	-	7-7a	A
-	-	6a-7	A
14	A	6-6a	A
-	-	5-5a	A
15	A	-	-
16	A	4-4a	A
17	A	-	-
-	-	3-3a	A
-	-	2-2a	A
-	-	1a-2	A
-	-	a-1a	A

* For Community Descriptions see Table 4.

TABLE 9

COMPARISON OF RIVER TYPE (ACCORDING TO HOLMES (1983))

ECOSURVEYS LTD (1993) SITE NO	RIVER TYPE	ENGLISH NATURE (1981-82) SITE NO	RIVER TYPE
1	A1v	40-40a	A2vi
2	A1iii	-	-
3	A1i	30-30a	A4i
-	-	29a-30	A4i
-	-	27-27a	A4i
4	A4iii	-	-
5	A3iii	21-21a	A4i
6	A4iv	22-22a	A4i
7	A2i	20a-21	A4iii
8	A2i	19a-20	A3iii
-	-	19-19a	A3iii
-	-	18a-19	A3ii
-	-	18-18a	A3ii
9	A1iii	17a-18	A3ii
-	-	17-17a	A4iii
-	-	16a-17	A4iii
-	-	16-16a	A4iii
-	-	15a-16	A4iii
-	-	15-15a	A4iii
-	-	14a-15	A4iii
-	-	14-14a	A4iii
-	-	13a-14	A3iii
10	A2i	13-13a	A4iii
-	-	12a-13	A4i

TABLE 9 cont

COMPARISON OF RIVER TYPE (ACCORDING TO HOLMES (1983))

ECOSURVEYS LTD (1993) SITE NO	RIVER TYPE	ENGLISH NATURE (1981-82) SITE NO	RIVER TYPE
11	A2i	12-12a	A4i
-	-	11a-12	A4iii
-	-	11-11a	A4iii
-	-	10a-11	A4iii
12	A4ii	10-10a	A4iii
-	-	9a-10	A2vi
-	-	9-9a	A4iii
-	-	8-8a	A4ii
13	A4ii	7a-8	A2vi
-	-	7-7a	A2vi
-	-	6a-7	A2v
14	A4ii	6-6a	A4iii
-	-	5-5a	A4ii
15	A4iii	-	-
16	A4i	4-4a	A4i
17	A4iii	-	-
-	-	3-3a	A4iii
-	-	2-2a	A4ii
-	-	1a-2	A4ii

TABLE 10
RECOMMENDED PROGRAMME OF MONITORING RIVER NAR

YEAR	SURVEY	ASSESSMENTS
1	Aquatic Macrophyte Survey (AMS)	Analysis of eutrophication levels and changes
2	Annual 'Visual' Survey (AVS)	-
3	AVS	-
4	AVS	-
5	AVS	-
6	AMS	Analysis of eutrophication levels and changes
7	AVS	-
8	AVS	-
9	AVS	-
10	AVS	-
11	AMS Repeat every 5 years	Analysis of eutrophication levels and changes

APPENDIX 2
MACROPHYTE RECORDS

MACROPHYTES IN WATERCOURSES—FIELD CHECK-LIST

RIVER NAR

SITE 1

SURVEYOR J. JAMES

NCR top TF 620 174

NCR bottom TF 622 183

Date + time 23.9.93 10am

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:								
Blue-Green Mats			<i>Littorella uniflora</i>				<i>Eloëdeca canadensis</i>	
<i>Betrauchospermum</i> sp(s)			<i>Mentha aquatica</i>				<i>Eloëdeca nuttallii</i>	
<i>Hildenbrandia rivularis</i>			<i>Menyanthes trifoliata</i>				<i>Glyceria maxima</i>	
<i>Lemanea fluviatilis</i>			<i>Montia fontana</i>				<i>Glyceria other sp(s)</i>	
<i>Vsucheria</i> sp(s)			<i>Myosotis sp(s)</i>	2	2		<i>Groenlandia densa</i>	
<i>Enteromorpha</i> sp(s)			<i>Myosoton aquaticum</i>				<i>Iris pseudacorus</i>	
<i>Stigeclonium</i> sp(s)			<i>Myriophyllum alterniflorum</i>				<i>Juncus acutiflorus</i>	
<i>Cleidocharis</i> sp(s)			<i>Myriophyllum spicatum</i>	2	2		<i>Juncus articulatus</i>	
Other filamentous Greens	3	3	<i>Nasturtium officinale</i> agg.	2	2		<i>Juncus bulbosus</i>	
<i>Carex</i> sp(s)			<i>Nuphar lutea</i>				<i>Juncus effusus</i>	
<i>Nitello</i> sp(s)			<i>Nymphaea alba</i>				<i>Juncus inflexus</i>	
LIVERWORTS:			<i>Oenanthe crocata</i>				<i>Juncus sol(s)</i>	
<i>Chiloscyphus polyanthos</i>			<i>Oenanthe fluviatilis</i>				<i>Lemna gibba (gibbous)</i>	
<i>Marsupella emarginata</i>			<i>Polygonum amphibium</i>				<i>Lemna minor</i> agg.	
<i>Nardic compressa</i>			<i>Potentilla palustris</i>				<i>Lemna trisulca</i>	
<i>Pella endiviifolia</i>			<i>Ranunculus aquatilis</i>				<i>Phalaris arundinacea</i>	3 2
<i>Pellia epiphylla</i>			<i>Ranunculus calcareus</i>				<i>Phragmites australis</i>	3 2
<i>Sceptraria undulata</i>			<i>Ranunculus circinatus</i>				<i>Potamogeton aginthus</i>	
<i>Solenostoma</i> sp(s)			<i>Ranunculus flammula</i>				<i>Potamogeton berchtoldii</i>	5 3
Foliose Liverworts indet.			<i>Ranunculus fluitans</i>				<i>Potamogeton crispus</i>	
Thalloid Liverworts Inde:			<i>Ranunculus hederaceus</i>				<i>Potamogeton friesii</i>	
MOSSES:			<i>Ranunculus omiophyllus</i>				<i>Potamogeton gramineus</i>	
<i>Amblystegium fluviatile</i>			<i>Ranunculus peltatus</i>				<i>Potamogeton lucens</i>	
<i>Amblystegium riparium</i>			<i>Ranunculus penicillatus</i>				<i>Potamogeton natans</i>	
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus trichophyllum</i>				<i>Potamogeton pectinatus</i>	
<i>Fontinalis antipyretica</i>			<i>Ranunculus sceleratus</i>				<i>Potamogeton perfoliatus</i>	
<i>Fontinalis sauamosa</i>			<i>Ranunculus inde:</i>	2	1		<i>Potamogeton polygonifol</i>	
<i>Hydrohypnum luridum</i>			<i>Roridoc amphiobia</i>				<i>Potamogeton praetongus</i>	
<i>Hydrohypnum ochraceum</i>			<i>Rumex hydrolapathum</i>				<i>Potamogeton pusillus</i>	
<i>Racomitrium aciculare</i>			<i>Solanum dulcamara</i>				<i>Potamogeton inde:</i>	
<i>Rhynchosciadium riariooides</i>			<i>Veronica anagallis-aquatica</i>				<i>Potamogeton other sp(s)</i>	
<i>Scolecum</i> sp(s)			<i>Veronica beccabunga</i>				<i>Scirpus sylvaticus</i>	
Mosses indet.			<i>Veronica catenata</i>				<i>Scirpus sylvaticus</i>	
MONOCOTYLEDONS:							<i>S. lacustris/caberneorum</i>	
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>				<i>Scirpus maritimus</i>	
<i>Azolla filiculoides</i>			<i>Aeroglossis stolonifera</i>				<i>Soizarium angustifolium</i>	
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>				<i>Soizarium emersum</i>	2 2
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>				<i>Soizarium erectum</i>	
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>				<i>Spiradela polyrrhiza</i>	
<i>Apium inundatum</i>			<i>Buromus umbellatus</i>				<i>Typha latifolia</i>	
<i>Apium nodiflorum</i>	2	1	<i>Carex acuta</i>				<i>Zannichellia palustris</i>	
<i>Berula erecta</i>			<i>Carex acutiformis</i>				ADDITIONS:	
<i>Callitrichia hamulata</i>			<i>Carex aquatilis</i>			1.		
<i>C. hermannioides</i>			<i>Carex elata</i>			2.		
<i>Callitrichia obirsanzenula</i>			<i>Carex paniculata</i>			3.		
<i>Callitrichia platycarpa</i>			<i>Carex riparia</i>			4.		
<i>Callitrichia scacnalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitrichia inde:</i>			<i>Carex vesicaria</i>			6.		
<i>Caltha palustris</i>			<i>Carex inde:</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sp(s)</i>			8.		
<i>Egloëbiium hirsutum</i>			<i>Catabrosa aquatica</i>			9.		
<i>Hippurus vulgaris</i>			<i>Eleocharis sol(s)</i>			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 1 SURVEYOR J. JAMES
 NGR top TF 620 174 NGR bottom TF 622 183 Date - time 23.9.93 11am

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	S	B	C	

	Rel	Cov		Rel	Cov		Rel	Cov	
ALGAE:									
Blue-Green Mats			<i>Littorella uniflora</i>				<i>Elatodea canadensis</i>		
<i>Baccharospernum</i> sp(s)			<i>Mentha aquatica</i>				<i>Elatodea nuttallii</i>		
<i>Hildenbrandia rivularis</i>			<i>Mentha trifolia</i>				<i>Glyceria maxima</i>		4 2
<i>Lemanea fluviatilis</i>			<i>Montia fontana</i>				<i>Glyceria other sp(s)</i>		
<i>Veucheria</i> sp(s)			<i>Myosoros</i> sp(s)	2			<i>Groenlandia densa</i>		
<i>Enteromorphia</i> sp(s)			<i>Myosoton aquaticum</i>				<i>Iris pseudacorus</i>		
<i>Stizoclonium</i> sp(p)			<i>Myriophyllum alterniflorum</i>				<i>Juncus acutiflorus</i>		
<i>Cladophora</i> sp(p)			<i>Myriophyllum spicatum</i>				<i>Juncus articulatus</i>		
Other filamentous Greens	3	3	<i>Nesturium officinale</i> agg.	2			<i>Juncus bulbosus</i>		
<i>Chara</i> sp(s)			<i>Nuphar lutea</i>				<i>Juncus effusus</i>		
<i>Nitella</i> sp(s)			<i>Nymphaea alba</i>				<i>Juncus inflexus</i>		
LIVERWORTS:			<i>Oenanthe crocata</i>				<i>Juncus sp(s)</i>		
<i>Chiloscyphus polyanthos</i>			<i>Oenanthe fluviatilis</i>				<i>Lemna gibba (gibbous)</i>		
<i>Marsupella emarginata</i>			<i>Polyzonum amphiobium</i>				<i>Lemna minor</i> agg		
<i>Nardia comorea</i>			<i>Potentilla palustris</i>				<i>Lemna trisulca</i>		
<i>Pellia endiviifolia</i>			<i>Ranunculus aquatilis</i>				<i>Phalaris arundinacea</i>		4 2
<i>Pellia epiphylla</i>			<i>Ranunculus calcareus</i>				<i>Phragmites australis</i>		2 1
<i>Scapania undulata</i>			<i>Ranunculus circinatus</i>				<i>Poetrorhecton alpinus</i>		
<i>Solenostoma</i> sp(p)			<i>Ranunculus flammula</i>				<i>Potamogeton berchtoldii</i>		4 2
Foliose Liverworts indet			<i>Ranunculus fluitans</i>				<i>Potamogeton crispus</i>		
Thalloid Liverworts Indet			<i>Ranunculus hederaceus</i>				<i>Potamogeton friesii</i>		
MOSSES:			<i>Ranunculus omiophyllus</i>				<i>Potamogeton gramineus</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus peltatus</i>				<i>Potamogeton lucens</i>		
<i>Amblystegium rigarium</i>			<i>Ranunculus penicillatus</i>				<i>Potamogeton natans</i>		
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus trichophyllus</i>				<i>Potamogeton pectinatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus sceleratus</i>				<i>Potamogeton perfoliatus</i>		
<i>Fontinalis sauvierosa</i>			<i>Ranunculus indec.</i>				<i>Potamogeton polygonifol</i>		
<i>Hydrohypnum luridum</i>			<i>Roridoc amphibie</i>				<i>Potamogeton praetorius</i>		
<i>Hydrohypnum ochraceum</i>			<i>Rumex hydrologathum</i>				<i>Potamogeton pusillus</i>		
<i>Racomitrium aciculare</i>			<i>Solarum dulcamara</i>				<i>Potamogeton indec.</i>		
<i>Rhynchosleziun riariooides</i>			<i>Veronica anagallis-aquatica</i>				<i>Potamogeton other sp(s)</i>		
<i>Sphaerum</i> sp(s)			<i>Veronica beccabunga</i>				<i>Sazieria sagittifolia</i>		
Mosses indet			<i>Veronica calcarata</i>				<i>Scirpus fluitans</i>		
VASCULAR CRYPTOGAMS:			MONOCOTyledons:				<i>S. lacustris/caberneemon</i>		
<i>Azolla filiculoides</i>			<i>Acorus calamus</i>				<i>Scirpus maritimus</i>		
<i>Equisetum fluviatile</i>			<i>Agrostis stolonifera</i>				<i>Sporzanium angustifolium</i>		
<i>Equisetum palustre</i>			<i>Alisma lanceolatum</i>				<i>Sporzanium emersum</i>		2
			<i>Alisma plantago-aquatica</i>				<i>Sporzanium erectum</i>		2
DICOTyledons:			<i>Alopecurus geniculatus</i>				<i>Spiradela polyrrhiza</i>		
<i>Aodium inundatum</i>			<i>Buromus umbellatus</i>				<i>Typha latifolia</i>		
<i>Aodium nodiflorum</i>			<i>Carex acuta</i>				<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>				ADDITIONS:		
<i>Callitrichia hamulata</i>			<i>Carex acutiflora</i>				<i>Scrophularia auriculata</i>		
<i>C. hermagphrodita</i>			<i>Carex elata</i>			2.			
<i>Callitrichia oblongula</i>			<i>Carex paniculata</i>			3.			
<i>Callitrichia platycarpa</i>			<i>Carex rigida</i>	5	2	4.			
<i>Callitrichia stagnalis</i>			<i>Carex rostrata</i>			5.			
<i>Callitrichia</i> indet			<i>Carex vesicaria</i>			6.			
<i>Celidio galustri</i>			<i>Carex indec.</i>			7.			
<i>Ceratophyllum demersum</i>	12.		<i>Carex other sp(s)</i>			8.			
<i>Epilobium hirsutum</i>			<i>Carabrosa aquatica</i>			9.			
<i>Hippocrate vulearis</i>			<i>Eleocharis sp(p)</i>			10.			

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 1 SURVEYOR J. JAMES
 NGR top TF 620 174 NGR bottom TF 622 183 Date + time 23.9.93 12pm

Site Length	0.5 km (500 m)	0.1 km (100 m)	0.01 km (10 m)				
Cover scale	(A)	B	A	B	A	B	C

	Rel Cov		Rel Cov		Rel Cov
ALGAE:					
Blue-Green Mats		1	<i>Littorella uniflora</i>		<i>Elodes canadensis</i>
<i>Baccharospermum</i> sp(s)		1	<i>Mentha aquatica</i>		<i>Elodes nuttallii</i>
<i>Hildenbrandia rivularis</i>		1	<i>Menyanthes trifoliata</i>		<i>Glyceria maxime</i>
<i>Lemnaea fluvicilis</i>		1	<i>Montia fontana</i>		<i>Glyceria other sol(p)</i>
<i>Vaucheria</i> sp(p)		1	<i>Myosotis</i> sp(s)	2	<i>Greenlandia dense</i>
<i>Enteromorpha</i> sp(g)		1	<i>Myosoton aquaticum</i>	1	<i>Iris pseudacorus</i>
<i>Suzekonium</i> sp(p)		1	<i>Myriophyllum alterniflorum</i>		<i>Juncus acutiflorus</i>
<i>Cladophora</i> sp(s)		1	<i>Myriophyllum spicatum</i>	2	<i>Juncus articulatus</i>
Other filamentous Greens	5	4	<i>Nasturtium officinale</i> agg.		<i>Juncus bulbosus</i>
<i>Chara</i> sp(p)		1	<i>Nuphar lutea</i>		<i>Juncus effusus</i>
<i>Nitella</i> sp(p)		1	<i>Nymphaea alba</i>		<i>Juncus inflexus</i>
LIVERWORTS:			<i>Oenanthe crocata</i>		<i>Juncus</i> sp(p)
<i>Chiloscyphus polyanthos</i>		1	<i>Oenanthe fluviatilis</i>		<i>Lemna gibba (ribbed)</i>
<i>Marsupella emarginata</i>		1	<i>Polygonum amphibium</i>		<i>Lemna minor agg</i>
<i>Nardia compressa</i>		1	<i>Potentilla palustris</i>		<i>Lemna trisulca</i>
<i>Pella endiviifolia</i>		1	<i>Ranunculus aquatilis</i>		<i>Phalaris arundinacea</i>
<i>Pellia epiphylla</i>		1	<i>Ranunculus calcareus</i>		<i>Phragmites australis</i>
<i>Scooania undulata</i>		1	<i>Ranunculus circinatus</i>		<i>Potamogeton alpinus</i>
<i>Solenostoma</i> sp(p)		1	<i>Ranunculus flammula</i>		<i>Potamogeton berchtoldii</i>
Foliose Liverworts indet		1	<i>Ranunculus fluitans</i>		<i>Potamogeton crispus</i>
Thalloid Liverworts Indet		1	<i>Ranunculus hederaceus</i>		<i>Potamogeton friesii</i>
MOSSES:			<i>Ranunculus omiophyllus</i>		<i>Potamogeton gramineus</i>
<i>Amblystegium fluviatile</i>		1	<i>Ranunculus peltatus</i>		<i>Potamogeton lucens</i>
<i>Amblystegium riario</i>		1	<i>Ranunculus genicillatus</i>		<i>Potamogeton natans</i>
<i>Cinclidorus fontinaloides</i>		1	<i>Ranunculus trichophyllus</i>		<i>Potamogeton pectinatus</i>
<i>Fontinalis antipyretica</i>		1	<i>Ranunculus sceleratus</i>	1	<i>Potamogeton perfoliatus</i>
<i>Fontinalis saundersii</i>		1	<i>Ranunculus</i> indet	1	<i>Potamogeton polygonifol</i>
<i>Hydrophyllum luridum</i>		1	<i>Rorippa amphibia</i>		<i>Potamogeton gracilis</i>
<i>Hydrophyllum ochraceum</i>		1	<i>Rumex hydrolapathum</i>		<i>Potamogeton pusillus</i>
<i>Racomitrium aciculare</i>		1	<i>Solanum dulcamara</i>		<i>Potamogeton</i> indet
<i>Rhynchosciadium riario</i>		1	<i>Veronica anagallis-aquatica</i>		<i>Potamogeton other sol(p)</i>
<i>Sphaerium</i> sp(p)		1	<i>Veronica beccabunga</i>		<i>Sagittaria sagittifolia</i>
Mosses indet		1	<i>Veronica catenata</i>		<i>Scirpus fluviensis</i>
VASCULAR CRYPTOGAMS:			MONOCOTYLEDONS:		<i>S. lacustris/cypernæmon</i>
<i>Azolla filiculoides</i>		1	<i>Acorus calamus</i>		<i>Scirpus maritimus</i>
<i>Equisetum fluviatile</i>		1	<i>Agrostis stolonifera</i>	1	<i>Soerzaniu angustifolium</i>
<i>Equisetum palustre</i>		1	<i>Alisma lanceolatum</i>	1	<i>Sparganium emersum</i>
DICOTYLEDONS:			<i>Alisma plantago-aquatica</i>	1	<i>Soerzaniu erectum</i>
<i>Adium inundatum</i>		1	<i>Alopecurus geniculatus</i>		<i>Spirodela polyrrhiza</i>
<i>Adium nodiflorum</i>	2	1	<i>Bucomus umbellatus</i>		<i>Typha latifolia</i>
<i>Berula erecta</i>		1	<i>Carex acuta</i>		<i>Zannichellia palustris</i>
<i>Callitricha hamulata</i>		1	<i>Carex acutiformis</i>		ADDITIONS:
<i>C. hermafroditica</i>		1	<i>Carex aquatilis</i>	1	<i>Scrophularia auriculata</i>
<i>Callitricha obcordata</i>		1	<i>Carex elata</i>	2	
<i>Callitricha platycarpa</i>		1	<i>Carex paniculata</i>	1	
<i>Callitricha stagnalis</i>		1	<i>Carex riparia</i>	2	
<i>Callitricha</i> indet		1	<i>Carex rostrata</i>	1	
<i>Celtha palustris</i>		1	<i>Carex vesicaria</i>	6	
<i>Ceratophyllum demersum</i>	3	2	<i>Carex</i> indet	7	
<i>Epilobium hirsutum</i>		1	<i>Carex other sol(p)</i>	8	
<i>Hippurus vulgaris</i>		1	<i>Catabrosa acicularis</i>	9	
		1	<i>Eleocharis</i> sp(p)	10	

MACROPHYTES IN WATERCOURSES--FIELD CHECK-LIST

RIVER NAR

SITE 2

SURVEYOR _____

NGR 100 TF 636 134

NGR bottom TF 631 135

Date = Sept 23 9.93 12.30 pm

Site Length	0.5 km (500 m)	0.1 km (100 m)	0.01 km (10 m)				
Cover scale	A	B	A	B	A	B	C

Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:							
Blue-Green Mats		<i>Littorella uniflora</i>			<i>Elodes canadensis</i>	1	3
<i>Batrachospermum sp(p)</i>		<i>Mentha aquatica</i>			<i>Elodes nuttallii</i>		
<i>Hildebrandia rivularis</i>		<i>Menyanthes trifoliata</i>			<i>Glyceria maxima</i>		
<i>Lemanea fluviatilis</i>		<i>Montia fontana</i>			<i>Glyceria other sp(p)</i>		
<i>Vaucheria sol(p)</i>		<i>Myosotis sp(p)</i>			<i>Groenlandia densa</i>		
<i>Enteromorpha sp(p)</i>	1	<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Stigeonion sp(p)</i>		<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Cladophora sp(p)</i>		<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
Other filamentous Greens	4	<i>Nasturtium officinale agg.</i>	2		<i>Juncus bulbosus</i>		
	3	<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara sp(p)</i>		<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella sp(p)</i>		<i>Oenanthe crocata</i>			<i>Juncus sp(p)</i>		
LIVERWORTS:		<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (leibbous)</i>		
<i>Chiloscyphus polycnemos</i>		<i>Polygonum amphibium</i>			<i>Lemna minor agg.</i>		
<i>Marsupella emarginata</i>		<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia comosa</i>		<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	2	2
<i>Pella endiviifolia</i>		<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>		<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scagelia undulata</i>		<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma sp(p)</i>		<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>	2	1
Foliose Liverworts inde:		<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet		<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:		<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amölystezium fluviatile</i>		<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amölystezium rioparum</i>		<i>Ranunculus trichophyllus</i>			<i>Potamogeton pectinatus</i>	5	3
<i>Cinclidorus fontinaloides</i>		<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>	3	2
<i>Fontinalis antipyretica</i>		<i>Ranunculus inde:</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis sauamosa</i>		<i>Rorippa amphibia</i>			<i>Potamogeton grælonensis</i>		
<i>Hydrocharis lurida</i>		<i>Rumex hydrolcoctum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrocharis ochraceum</i>		<i>Solium dulcamara</i>			<i>Potamogeton inde:</i>		
<i>Racomitrium aciculare</i>		<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sp(p)</i>		
<i>Rhynchosciadium rioparoides</i>		<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Schiznum sp(p)</i>		<i>Veronica catenata</i>			<i>Scirpus fluviatus</i>		
Mosses inde:		MONOCOTYLEDONS:			<i>S. lacustris/taber naemon</i>		
VASCULAR CRYPTOGAMS:		<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>		<i>Aerostis stolonifera</i>			<i>Sporzanium angustifolium</i>		
<i>Equisetum fluviatile</i>		<i>Alisma lanceolatum</i>			<i>Sporzanium emersum</i>	4	2
<i>Equisetum palustre</i>		<i>Alisma plantago-aquatica</i>			<i>Sporzanium erectum</i>		
DICOTYLEDONS:		<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Abium inundatum</i>		<i>Buonomus umbellatus</i>			<i>Typha latifolia</i>		
<i>Abium nodiflorum</i>		<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>		<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>		<i>Carex aquatilis</i>				1.	
<i>C. hermaphroditica</i>		<i>Carex elata</i>				2.	
<i>Callitricha obtusangula</i>		<i>Carex paniculata</i>				3.	
<i>Callitricha olivacea</i>		<i>Carex riberia</i>				4.	
<i>Callitricha stagnalis</i>		<i>Carex rostrata</i>				5.	
<i>Callitricha inde:</i>		<i>Carex vesicaria</i>				6.	
<i>Celtha palustris</i>		<i>Carex inde:</i>				7.	
<i>Ceratophyllum demersum</i>	1	<i>Carex other sp(p)</i>				8.	
<i>Eoilibium hirsutum</i>		<i>Calcareosa aquatica</i>				9.	
<i>Hippurus vulgaris</i>		<i>Fimbraris sp(p)</i>				10.	

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 2 SURVEYOR J. JONES
 NCR top TF 636 134 NGR bottom TF 631 135 Date + time 23.9.93 1.30pm

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Rel	Cov ¹		Rel	Cov		Rel	Cov ¹
ALGAE:								
Blue-Green Mats			<i>Littorella uniflora</i>				<i>Elodes canadensis</i>	2 2
<i>Batrachospermum sp(s)</i>			<i>Mentha aquatica</i>				<i>Elodes nuttallii</i>	1 1
<i>Hildenbrandia rivularis</i>			<i>Menyanthes trifoliata</i>				<i>Glyceria maxima</i>	1 1
<i>Lemanea fluviatilis</i>			<i>Montia fontana</i>				<i>Glyceria other sp(s)</i>	1 1
<i>Veucheria soloi</i>			<i>Myosotis sp(s)</i>	2 1	1		<i>Graenlandia dense</i>	1 1
<i>Enteromorpha sp(s)</i>			<i>Myosoton aquaticum</i>				<i>Iris pseudacorus</i>	1 1
<i>Stigeclonium sp(s)</i>			<i>Myriophyllum alterniflorum</i>				<i>Juncus acutiflorus</i>	1 1
<i>Cladophora sp(s)</i>			<i>Myriophyllum spicatum</i>				<i>Juncus articulatus</i>	1 1
Other filamentous Greens	3	3	<i>Nasturtium officinale agg.</i>	2 1	1		<i>Juncus bulbosus</i>	1 1
<i>Chera soloi</i>			<i>Nuphar lutea</i>				<i>Juncus effusus</i>	1 1
<i>Nitella soloi</i>	.		<i>Nymphaea alba</i>				<i>Juncus inflexus</i>	1 1
LIVERWORTS:			<i>Oenanthe crocata</i>				<i>Juncus soloi</i>	1 1
<i>Chiloscyphus polyanthus</i>			<i>Oenanthe fluviatilis</i>				<i>Lemna gibba (gibbous)</i>	1 1
<i>Marsupella emarginata</i>			<i>Polygonum amphibium</i>				<i>Lemna minor agg.</i>	1 1
<i>Nardia compressa</i>			<i>Potentilla palustris</i>				<i>Lemna trisulca</i>	1 1
<i>Pella endiviifolia</i>			<i>Ranunculus aquatilis</i>				<i>Phalaris arundinacea</i>	2 2
<i>Pellia epiphylla</i>			<i>Ranunculus calcareus</i>				<i>Phragmites australis</i>	1 1
<i>Scapania undulata</i>			<i>Ranunculus circinetus</i>				<i>Potamogeton alpinus</i>	1 1
<i>Solenostoma sp(s)</i>			<i>Ranunculus flammula</i>				<i>Potamogeton berchtoldii</i>	1 1
Foliose Liverworts indet			<i>Ranunculus fluitans</i>	:	1		<i>Potamogeton crispus</i>	3 2
Thalloid Liverworts Indet			<i>Ranunculus hederaceus</i>				<i>Potamogeton friesii</i>	1 1
MOSSES:			<i>Ranunculus omiophyllus</i>				<i>Potamogeton gramineus</i>	1 1
<i>Amblystegium fluviatile</i>			<i>Ranunculus peltatus</i>				<i>Potamogeton lucens</i>	1 1
<i>Amblystegium riparium</i>			<i>Ranunculus penicillatus</i>				<i>Potamogeton natans</i>	1 1
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus trichophyllum</i>				<i>Potamogeton decipiens</i>	5 3
<i>Fontinalis antipyretica</i>			<i>Ranunculus sceleratus</i>				<i>Potamogeton perfoliatus</i>	2 2
<i>Fontinalis scutmosa</i>			<i>Ranunculus indec.</i>				<i>Potamogeton polygonifol</i>	1 1
<i>Hydrohypnum luridum</i>			<i>Rorippa amphibia</i>				<i>Potamogeton crassipes</i>	1 1
<i>Hydrohypnum ochraceum</i>			<i>Rumex hydrolapathum</i>				<i>Potamogeton pusillus</i>	1 1
<i>Racomitrium aciculare</i>			<i>Solenum dulcamara</i>				<i>Potamogeton indec.</i>	1 1
<i>Rhynchosciadium riparioides</i>			<i>Veronica anagallis-aquatica</i>				<i>Potamogeton other sp(s)</i>	1 1
<i>Sohnenia soloi</i>			<i>Veronica beccabunga</i>				<i>Sagittaria sagittifolia</i>	1 1
Mosses indet			<i>Veronica caucasica</i>				<i>Scirpus fluvians</i>	1 1
VASCULAR CRYPTOGAMS:			MONOCOTYLEDONS:				<i>S. lacustris/tabernaemont</i>	1 1
<i>Azolla filiculoides</i>			<i>Acorus calamus</i>				<i>Scirpus maritimus</i>	1 1
<i>Equisetum fluviatile</i>			<i>Agrostis stolonifera</i>				<i>Sparganium angustifolium</i>	1 1
<i>Equisetum palustre</i>			<i>Alisma lanceolatum</i>				<i>Sparganium emersum</i>	3 2
DICOTYLEDONS:			<i>Alisma plantago-aquatica</i>				<i>Sparganium erectum</i>	1 1
<i>Adium inundatum</i>			<i>Alstroemeria geniculatus</i>				<i>Spirodela polyrrhiza</i>	1 1
<i>Adium nodiflorum</i>			<i>Buomus umbellatus</i>				<i>Typha latifolia</i>	1 1
<i>Berula erecta</i>			<i>Carex acuta</i>				<i>Zannichellia palustris</i>	1 1
<i>Callitrichia hamulata</i>			<i>Carex acutiformis</i>				ADDITIONS:	
<i>C. hermaphroditica</i>			<i>Carex aquatilis</i>				1.	1
<i>Callitrichia obtruscula</i>			<i>Carex elata</i>				2.	1
<i>Callitrichia polarvegae</i>			<i>Carex paniculata</i>				3.	1
<i>Callitrichia stagnalis</i>			<i>Carex riparia</i>				4.	1
<i>Callitrichia indec.</i>			<i>Carex rostrata</i>				5.	1
<i>Caltha palustris</i>			<i>Carex vesicaria</i>				6.	1
<i>Ceratophyllum demersum</i>	3 12		<i>Carex indec.</i>				7.	1
<i>Epilobium hirsutum</i>			<i>Carex other sp(s)</i>				8.	1
<i>Hippurus vulgaris</i>			<i>Catabrosa aquatica</i>				9.	1
			<i>Eleocharis soloi</i>				10.	1

MACROPHYTES IN V TER COURSES - FIELD CHECK-LIST

RIVER NAR SITE 2 SURVEYOR J. JAMES
 NGR top TF 636 134 NGR bottom TF 631 135 Date + time 23.9.93 2.30pm

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Rel Cov		Rel Cov		Rel Cov	
ALGAE:			<i>Littorella uniflora</i>		<i>Elodes canadensis</i>	4 3
Blue-Green Mats			<i>Mentha aquatica</i>		<i>Elodes nuttallii</i>	
<i>Baccharosphaerium</i> sp(s)			<i>Menyanthes trifoliata</i>		<i>Glyceria maxima</i>	
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>		<i>Glyceria other</i> sp(s)	
<i>Lemnaea fluviatilis</i>			<i>Mosotis</i> sp(s)	2 1	<i>Groenlandia densa</i>	
<i>Vzucheria</i> sp(s)			<i>Mosotis aquaticum</i>		<i>Iris pseudacorus</i>	2 1
<i>Enteromorpha</i> sp(s)	2 1		<i>Myriophyllum alterniflorum</i>		<i>Juncus acutiflorus</i>	
<i>Suzektonium</i> sp(s)			<i>Myriophyllum spicatum</i>	1 1	<i>Juncus articulatus</i>	
<i>Cleodophore</i> sp(s)			<i>Nasturtium officinale</i> agg.	2 1	<i>Juncus bulbosus</i>	
Other filamentous Greens	4 3		<i>Nuphar lutes</i>		<i>Juncus effusus</i>	
<i>Chara</i> sp(s)			<i>Nymphaea alba</i>		<i>Juncus inflexus</i>	
<i>Nitella</i> sp(s)			<i>Oenanthe crocata</i>		<i>Juncus</i> sp(s)	
LIVERWORTS:			<i>Oenanthe fluviatilis</i>		<i>Lemna gibba</i> (gibbous)	
<i>Chiloscyphus polyanthos</i>			<i>Polygonum amphibium</i>		<i>Lemna minor</i> agg	
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>		<i>Lemna trisulca</i>	
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>		<i>Phalaris arundinacea</i>	3 2
<i>Pellia endiviifolia</i>			<i>Ranunculus calcaratus</i>		<i>Phragmites australis</i>	2 1
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>		<i>Potamogeton elatinus</i>	
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>		<i>Potamogeton berchtoldii</i>	
<i>Solenostoma</i> sp(s)			<i>Ranunculus fluitans</i>		<i>Potamogeton crispus</i>	3 2
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>		<i>Potamogeton friesii</i>	
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>		<i>Potamogeton gramineus</i>	
MOSSES:			<i>Ranunculus peltatus</i>		<i>Potamogeton lucens</i>	
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>		<i>Potamogeton natans</i>	
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>		<i>Potamogeton pectinatus</i>	5 3
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>	1 1	<i>Potamogeton perfoliatus</i>	3 2
<i>Fontinalis antipyretica</i>			<i>Ranunculus</i> indet		<i>Potamogeton polygonifol</i>	
<i>Fontinalis squamosa</i>			<i>Rorippa amphibia</i>		<i>Potamogeton pratense</i>	
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolaetum</i>		<i>Potamogeton pusillus</i>	
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>	1 1	<i>Potamogeton</i> indet	
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>	1 1	<i>Potamogeton other</i> sp(s)	
<i>Rhynchosciadium riparioides</i>			<i>Veronica beccabunga</i>	1 1	<i>Scirpus sagittifolius</i>	
<i>Sonchnum</i> sp(s)			<i>Veronica catenata</i>	1 1	<i>Scirpus fluvians</i>	
Mosses indet			MONOCOTYLEDONS:	1 1	<i>S. lacustris/caberneemon</i>	
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>	1 1	<i>Scirpus maritimus</i>	
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>	1 1	<i>Sozaeanium angustifolium</i>	
<i>Equisetum fluviatile</i>	2 1		<i>Alisma lanceolatum</i>	1 1	<i>Sozaeanium emersum</i>	3 2
<i>Equisetum palustre</i>	1 1		<i>Alisma plantago-aquatica</i>	1 1	<i>Sozaeanium erectum</i>	
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>	1 1	<i>Soisadela polystachya</i>	
<i>Adium inundatum</i>			<i>Bu托omus umbellatus</i>	1 1	<i>Typha latifolia</i>	
<i>Adium nodiflorum</i>	2 1		<i>Carex acuta</i>	1 1	<i>Zannichellia palustris</i>	
<i>Berula erecta</i>			<i>Carex acutiformis</i>	1 1	ACTIONS:	
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>	1 1	<i>Ranunculus repens</i>	2 1
<i>C. hermaphroditica</i>			<i>Carex elata</i>	1 1	2.	
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>	1 1	3.	
<i>Callitricha obtusangula</i>			<i>Carex rigida</i>	3 2	4.	
<i>Callitricha scirpoides</i>			<i>Carex rostrata</i>	1 1	5.	
<i>Callitricha</i> indet			<i>Carex vesicaria</i>	1 1	6.	
<i>Celtha palustris</i>			<i>Carex</i> indet	1 1	7.	
<i>Ceratophyllum demersum</i>	2 1		<i>Carex other</i> sp(s)	1 1	8.	
<i>Coilobium hirsutum</i>	2 1		<i>Calabrosa aquatica</i>	1 1	9.	
<i>Hippurus vulgaris</i>	1 1		<i>Eleocharis</i> sp(s)	1 1	10.	

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 3 SURVEYOR J. JAMES
 NGR top TF 670 135 NGR bottom TF 665 135 Date + time 23.9.93 3pm

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Ref Cov		Ref Cov		Ref Cov	
ALGAE:						
Blue-Green Mats		<i>Littorella uniflora</i>		<i>Eiodes canadensis</i>		
<i>Baccharispermum</i> sp(s)		<i>Mentha aquatica</i>		<i>Eiodes nuttallii</i>		
<i>Hildenbrandia rivularis</i>		<i>Menyanthes trifolia</i>		<i>Glyceria maxima</i>	5 3	
<i>Lemanea fluviatilis</i>		<i>Montic fontana</i>		<i>Glyceria other</i> sp(s)		
<i>Veucheria</i> sp(s)		<i>Myosotis</i> sp(s)		<i>Oreoglandic dense</i>		
<i>Enteromorphia</i> sp(s)		<i>Myosoton aquaticum</i>		<i>Iris pseudacorus</i>		
<i>Stigeclonium</i> sp(s)		<i>Myriophyllum alterniflorum</i>		<i>Juncus acutiflorus</i>		
<i>Cladophora</i> sp(s)		<i>Myriophyllum spicatum</i>		<i>Juncus articulatus</i>		
Other filamentous Greens	3	2	<i>Nasturtium officinale</i> agg.	3 2	<i>Juncus bulbosus</i>	
<i>Carex</i> sp(s)		<i>Nuphar lutea</i>		<i>Juncus effusus</i>		
<i>Nitella</i> sp(s)		<i>Nymphaea alba</i>		<i>Juncus inflexus</i>		
LIVERWORTS:						
<i>Chiloscyphus polyanthos</i>		<i>Oenanthe crocata</i>		<i>Juncus</i> sp(s)		
<i>Marsupella emarginata</i>		<i>Oenanthe fluviatilis</i>		<i>Lemna gibba (gibbous)</i>		
<i>Nerdia compressa</i>		<i>Polygonum amphibium</i>		<i>Lemna minor</i> agg.		
<i>Pella endiviifolia</i>		<i>Potentilla palustris</i>		<i>Lemna trisulca</i>		
<i>Peltia epiphylla</i>		<i>Ranunculus aquatilis</i>		<i>Phalaris arundinacea</i>	4 2	
<i>Scapania undulata</i>		<i>Ranunculus calcareus</i>		<i>Phragmites australis</i>		
<i>Solenostoma</i> sp(s)		<i>Ranunculus circinatus</i>		<i>Poetemogeton alpinus</i>		
Foliose Liverworts inde:		<i>Ranunculus flammula</i>		<i>Poetamogeton berchtoldii</i>		
Thalloid Liverworts Inde:		<i>Ranunculus fluitans</i>		<i>Poetamogeton crispus</i>		
MOSSES:						
<i>Amblystegium fluviatile</i>		<i>Ranunculus hederaceus</i>		<i>Poetamogeton friesii</i>		
<i>Amblystegium riparium</i>		<i>Ranunculus omiophyllum</i>		<i>Poetamogeton gramineus</i>		
<i>Cirriphyllidium fontinaloides</i>		<i>Ranunculus peltatus</i>		<i>Poetamogeton lucens</i>		
<i>Fontinalis antipyretica</i>		<i>Ranunculus penicillatus</i>		<i>Poetamogeton natans</i>		
<i>Fontinalis squamosa</i>		<i>Ranunculus trichophyllum</i>		<i>Poetamogeton pectinatus</i>	3 2	
<i>Hydrohypnum luridum</i>		<i>Ranunculus sceleratus</i>		<i>Poetamogeton perfoliatus</i>	2 2	
<i>Hydrohypnum ochraceum</i>		<i>Ranunculus indet</i>		<i>Poetamogeton polygonifol</i>		
<i>Racomitrium aciculare</i>		<i>Rorippa amphibia</i>		<i>Poetamogeton oraeolongus</i>		
<i>Rhynchosciadium riparioides</i>		<i>Rumex hydrolapathum</i>		<i>Poetamogeton pusillus</i>		
<i>Sohngnum</i> sp(s)		<i>Solenum dulcamara</i>		<i>Poetamogeton inde:</i>		
Mosses inde:		<i>Veronica angustis-aquatica</i>		<i>Poetamogeton other</i> sp(s)		
VASCULAR CRYPTOGAMS:		<i>Veronica beccabunga</i>		<i>Sagittaria sagittifolia</i>		
<i>Azolla filiculoides</i>		<i>Veronica catenata</i>		<i>Scirpus fluvians</i>		
<i>Equisetum fluviatile</i>		MONOCOTYLEDONS:		<i>S. lacustris/labernaeon</i>		
<i>Equisetum palustre</i>		<i>Acorus calamus</i>		<i>Scirpus maritimus</i>		
DICOTYLEDONS:		<i>Aerostis stolonifera</i>		<i>Soerganium angustifolium</i>		
<i>Aodium inundatum</i>		<i>Alisma lanceolatum</i>		<i>Soerganium emersum</i>	2 2	
<i>Aodium nodiflorum</i>		<i>Alisma plantago-aquatica</i>		<i>Soerganium erectum</i>		
<i>Berula erecta</i>		<i>Alodecurus geniculatus</i>		<i>Spirodela polyrhiza</i>		
<i>Callitricha hamulata</i>		<i>Buinator umbellatus</i>		<i>Typha latifolia</i>		
<i>C. hermaphroditica</i>		<i>Carex acuta</i>		<i>Zannichellia palustris</i>		
<i>Callitricha obtusangula</i>		<i>Carex acutiformis</i>		ADDITIONS:		
<i>Callitricha ovata</i>		<i>Carex acutiflora</i>		1.		
<i>Callitricha stagonalis</i>		<i>Carex elata</i>		2.		
<i>Callitricha inde:</i>		<i>Carex paniculata</i>		3.		
<i>Caitha galustris</i>		<i>Carex rostrata</i>		4.		
<i>Ceratophyllum demersum</i>	2 12	<i>Carex vesicaria</i>		5.		
<i>Eolobium hirsutum</i>		<i>Carex inde:</i>		6.		
<i>Hippurus vulgaris</i>		<i>Carex other</i> sp(s)		7.		
		<i>Calochroa aquatica</i>		8.		
		<i>Eleocharis</i> sp(s)		9.		
				10.		

MACROPHYTES IN WATERCOURSES—FIELD CHECK-LIST

RIVER NAR

SITE 3

SURVEYOR J. JAMES

NCR top TF 670 135

NCR bottom TF 665 135

Date - time 23.9.95 4pm

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	(A)	B	A	B	C		

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodes canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>			<i>Elodes nuttallii</i>		
<i>Baccharispermum solo</i>			<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>	2	
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(s)</i>		
<i>Lemnaea fluviciliis</i>			<i>Mosotris sp(s)</i>			<i>Groenlandia densa</i>		
<i>Voucheria solo</i>			<i>Mosotrichon aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha solo</i>			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeclonium solo</i>			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora solo</i>			<i>Nasturtium officinale agg.</i>	2		<i>Juncus bulbosus</i>		
Other filamentous Greens	5	3	<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara solo</i>			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella solo</i>	.		<i>Oenanthe crocata</i>			<i>Juncus solo</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibbaous)</i>		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg</i>		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	4	2
<i>Pellia endiviifolia</i>			<i>Ranunculus calcaratus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Poetrorhynchus alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma solo</i>			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts Indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riario</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>	2	2
<i>Cinclidium fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>	2	2
<i>Fontinalis antipyretica</i>			<i>Ranunculus indec.</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis aquatilis</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praetorius</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton indec.</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other solo</i>		
<i>Rhynchosciadium riario</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sohaznum solo</i>			<i>Veronica catenata</i>			<i>Scirpus fluviatus</i>		
Mosses Indet			MONOCOTYLEDONS:			<i>S. lacustris/caberneamon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Aerostis stolonifera</i>			<i>Schoenoplectus angustifolius</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Schoenoplectus emersum</i>	2	2
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Schoenoplectus erectum</i>	2	1
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Schoenoplectus polystachya</i>		
<i>Aodium inundatum</i>			<i>Buettikeria umbellatus</i>			<i>Typha latifolia</i>		
<i>Aodium nodiflorum</i>	1	1	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitrichia hamulata</i>			<i>Carex acutiflora</i>			1.		
<i>C. hermagphrodita</i>			<i>Carex elata</i>			2.		
<i>Callitrichia obtusangula</i>			<i>Carex paniculata</i>			3.		
<i>Callitrichia altervargae</i>			<i>Carex rigida</i>			4.		
<i>Callitrichia scirpoides</i>			<i>Carex rostrata</i>			5.		
Callitrichia Indet			<i>Carex vesicaria</i>			6.		
<i>Caltha palustris</i>			<i>Carex indec.</i>			7.		
<i>Ceratophyllum demersum</i>	2	1	<i>Carex other solo</i>			8.		
<i>Equisetum hirsutum</i>			<i>Catabrosa aquatica</i>			9.		
<i>Hippuris vulgaris</i>			<i>Eleocharis solo</i>			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 3 SURVEYOR J. JAMES
 NGR top TF 670 135 NGR bottom TF 665 135 Date - time 28.9.93 5 pm

Site Length	0.5 km (500 m)	0.1 km (100 m)	0.01 km (10 m)				
Cover scale	(A)	B	A	B	A	B	C

	Rel Cov		Rel Cov		Rel Cov	
ALGAE:						
Blue-Green Mats	1	1	Meniaea uniflora	1	Elodes canadensis	1
<i>Baccharispermum</i> sp(s)	1	1	Mentha aquatica	1	Elodes nuttallii	1
<i>Hildenbrandia rivularis</i>	1	1	Menyanthes trifoliata	1	Glyceria maxima	1
<i>Lemanea fluviatilis</i>	1	1	Montia fontana	1	Glyceria other sp(s)	1
<i>Vaucheria</i> sp(s)	1	1	Mosotris sp(s)	1	Groenlandia dense	1
<i>Enteromorpha</i> sp(s)	1	1	Myriophyllum alterniflorum	1	Iris pseudocorus	1
<i>Stigeclonium</i> sp(s)	1	1	Myriophyllum spicatum	1	Juncus acutiflorus	1
<i>Cladophora</i> sp(s)	1	1	Nasturtium officinale agg.	2	Juncus articulatus	1
Other filamentous Greens	5	4	Nugher lutes	1	Juncus bulbosus	1
<i>Chara</i> sp(s)	1	1	Nymphaea alba	1	Juncus effusus	1
<i>Nitella</i> sp(s)	1	1	Oenanthe crocata	1	Juncus inflexus	1
LIVERWORTS:			Oenanthe fluviatilis	1	Juncus ssp(s)	1
<i>Chiloscyphus polyanthus</i>	1	1	Polygonum amphibium	1	Lemna gibba (gibbous)	1
<i>Marsupella emarginata</i>	1	1	Potentilla palustris	1	Lemna minor agg	1
<i>Nardia compressa</i>	1	1	Ranunculus aquatilis	1	Lemna trisulca	1
<i>Pella endiviifolia</i>	1	1	Ranunculus calcareus	1	Phalaris arundinacea	1
<i>Pellia epiphylla</i>	1	1	Ranunculus circinatus	1	Phragmites australis	1
<i>Scozia undulata</i>	1	1	Ranunculus flammula	1	Potamogeton alpinus	1
<i>Solenostoma</i> sp(s)	1	1	Ranunculus fluitans	1	Potamogeton berchtoldii	1
Foliose Liverworts inde	1	1	Ranunculus hederaceus	1	Potamogeton crispus	1
Thalloid Liverworts Inde	1	1	Ranunculus omiophyllus	1	Potamogeton fischeri	1
MOSSES:			Ranunculus peltatus	1	Potamogeton gramineus	1
<i>Amblystegium fluviatile</i>	1	1	Ranunculus pedicellatus	1	Potamogeton lucens	1
<i>Amblystegium riario</i>	1	1	Ranunculus trichophyllum	1	Potamogeton natans	1
<i>Cinclidium fontinaloides</i>	1	1	Ranunculus sceleratus	1	Potamogeton perfoliatus	2
<i>Fontinalis antipyretica</i>	1	1	Ranunculus inde	1	Potamogeton polystachyifol	1
<i>Fontinalis squamosa</i>	1	1	Rorippa amphibia	1	Potamogeton praetorius	1
<i>Hygrohypnum liriodum</i>	1	1	Rumex hydrocoanthum	2	Potamogeton pusillus	1
<i>Hygrohypnum ochraceum</i>	1	1	Solanum dulcamara	1	Potamogeton inde	1
<i>Racomitrium aciculare</i>	1	1	Veronica anagallis-aquatica	1	Potamogeton other sp(s)	1
<i>Rhynchosciadium riario</i>	1	1	Veronica beccabunga	1	Scirpus sativus	1
<i>Sphagnum</i> sp(s)	1	1	Veronica catenata	1	Scirpus fluviatilis	1
Mosses inde	1	1	MONOCOTYLEDONS:	1	S. lacustris/tabernefemon	1
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>	1	Scirpus maritimus	1
<i>Azolla filiculoides</i>	1	1	<i>Aerostis sirolonifera</i>	1	Soerazium angustifolium	1
<i>Equisetum fluviatile</i>	1	1	<i>Alisma lanceolatum</i>	1	Soerazium emersum	2
<i>Equisetum palustre</i>	1	1	<i>Alisma plantago-aquatica</i>	1	Soerazium erectum	2
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>	1	Spirodela polyrrhiza	1
<i>Apium inundatum</i>	1	1	<i>Buromus umbellatus</i>	1	Typha latifolia	1
<i>Apium nodiflorum</i>	1	1	<i>Carex acuta</i>	1	Zannichellia palustris	1
<i>Berula erecta</i>	1	1	<i>Carex acutiformis</i>	1	ADDITIONS:	1
<i>Callitrichia hamulata</i>	1	1	<i>Carex aequitilis</i>	1	1.	1
<i>C. hermaphroditica</i>	1	1	<i>Carex elata</i>	1	2.	1
<i>Callitrichia obesusanguinea</i>	1	1	<i>Carex paniculata</i>	1	3.	1
<i>Callitrichia placvegae</i>	1	1	<i>Carex rigida</i>	2	4.	1
<i>Callitrichia stigmalis</i>	1	1	<i>Carex rostrata</i>	1	5.	1
<i>Callitrichia inde</i>	1	1	<i>Carex vesicaria</i>	1	6.	1
<i>Caltha palustris</i>	1	1	<i>Carex inde</i>	1	7.	1
<i>Ceratophyllum demersum</i>	1	3	<i>Carex other sp(s)</i>	1	8.	1
<i>Eoiodium hirsutum</i>	1	1	<i>Carabrosa aquatica</i>	1	9.	1
<i>Hippurus vulgaris</i>	1	1	<i>Eleocharis</i> sp(s)	1	10.	1

MACROPHYTES IN WATERCOURSES—FIELD CHECK-LIST

RIVER NAR

SITE 4

SURVEYOR J. JAMES

NCR top TF 729 12.4

NCR bottom TF 725 121

Date - time 24.9.93 8.30 am

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Rel Cov		Rel Cov		Rel Cov
ALGAE:			<i>Littorella uniflora</i>		<i>Elodes canadensis</i>
Blue-Green Mats	1		<i>Mentha aquatica</i>	1	<i>Elodes nuttallii</i>
<i>Betchoespermum</i> sp(s)	1		<i>Menyanthes trifoliata</i>	1	<i>Glyceria maxima</i>
<i>Hildenbrandia rivularis</i>	1		<i>Montia fontana</i>	1	<i>Glyceria other sp(s)</i>
<i>Lemanea fluviatilis</i>	1		<i>Myosotis</i> sp(s)	1	<i>Groenlandia dense</i>
<i>Vaucheria</i> sp(s)	1		<i>Myosoton aquaticum</i>	1	<i>Iris pseudacorus</i>
<i>Enteromorphia</i> sp(s)	1		<i>Myriophyllum alterniflorum</i>	1	<i>Juncus acutiflorus</i>
<i>Stizocionium</i> sp(s)	1		<i>Myriophyllum spicatum</i>	1	<i>Juncus articulatus</i>
<i>Cladophora</i> sp(s)	1		<i>Nasturtium officinale</i> agg.	1	<i>Juncus bulbosus</i>
Other filamentous Greens	4	2	<i>Nuphar lutea</i>	1	<i>Juncus effusus</i>
<i>Chara</i> sp(s)	1		<i>Nymphaea alba</i>	1	<i>Juncus inflexus</i>
<i>Nitella</i> sp(s)	1		<i>Oenanthe crocata</i>	1	<i>Juncus</i> sp(s)
LIVERWORTS:			<i>Oenanthaea fluviatilis</i>	3	<i>Lemna gibba</i> (gibbous)
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>	1	<i>Lemna minor</i> agg.
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>	1	<i>Lemna trisulca</i>
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>	1	<i>Phalaris arundinacea</i>
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>	1	<i>Phragmites australis</i>
<i>Peltigera epiphylla</i>			<i>Ranunculus circinatus</i>	1	<i>Potamogeton elatinus</i>
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>	1	<i>Potamogeton berchtoldii</i>
<i>Solenostoma</i> sp(s)			<i>Ranunculus fluitans</i>	1	<i>Potamogeton crispus</i>
Foliose Liverworts index			<i>Ranunculus hederaceus</i>	1	<i>Potamogeton friesii</i>
Thalloid Liverworts Index			<i>Ranunculus omiophyllum</i>	1	<i>Potamogeton gramineus</i>
MOSSES:			<i>Ranunculus peltatus</i>	1	<i>Potamogeton lucens</i>
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>	5	<i>Potamogeton natans</i>
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>	1	<i>Potamogeton octovalvis</i>
<i>Cinclidium fontinaloides</i>			<i>Ranunculus sceleratus</i>	1	<i>Potamogeton perfoliatus</i>
<i>Fontinalis antipyretica</i>			<i>Ranunculus indec.</i>	1	<i>Potamogeton polygonifolius</i>
<i>Fontinalis squamosa</i>			<i>Rorippa amphibia</i>	1	<i>Potamogeton praelongus</i>
<i>Hydrolycon liridum</i>			<i>Rumex hydrophila</i>	1	<i>Potamogeton pusillus</i>
<i>Hydrolycon ochraceum</i>			<i>Solanum dulcamara</i>	1	<i>Potamogeton indec.</i>
<i>Recomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>	1	<i>Potamogeton other sp(s)</i>
<i>Rhynchostegium riparioides</i>			<i>Veronica beccabunga</i>	1	<i>Sagittaria sagittifolia</i>
<i>Sohrenia</i> sp(s)			<i>Veronica catenata</i>	1	<i>Scirpus fluviatus</i>
Mosses indec:			MONOCOTYLEDONS:	1	<i>S. lacustris/taurina</i>
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>	1	<i>Scirpus maritimus</i>
<i>Azolla filiculoides</i>			<i>Aerostis siolonifera</i>	1	<i>Shaarzaniang angustifolium</i>
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>	1	<i>Shaarzaniang emersum</i>
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>	1	<i>Shaarzaniang erectum</i>
DICOTYLEDONS:			<i>Alisma geniculatum</i>	1	<i>Spirodela polyrrhiza</i>
<i>Apium inundatum</i>			<i>Bu托omus umbellatus</i>	1	<i>Typha latifolia</i>
<i>Apium nodiflorum</i>	2	2	<i>Carex acuta</i>	1	<i>Zannichellia palustris</i>
<i>Berula erecta</i>			<i>Carex acutiformis</i>	1	ADDITIONS:
<i>Callitrichia hamulata</i>			<i>Carex aquatilis</i>	1	
<i>C. hermafroditica</i>			<i>Carex elata</i>	1	12.
<i>Callitrichia obtusangula</i>			<i>Carex paniculata</i>	1	13.
<i>Callitrichia platycarpa</i>			<i>Carex rigida</i>	1	14.
<i>Callitrichia stenialis</i>			<i>Carex rostrata</i>	1	15.
<i>Callitrichia indec</i>	2	1	<i>Carex vesicaria</i>	1	16.
<i>Catina palustris</i>			<i>Carex indec.</i>	1	17.
<i>Ceratophyllum demersum</i>			<i>Carex other sp(s)</i>	1	18.
<i>Elatobium hirsutum</i>	2	1	<i>Catabrosa aquatica</i>	1	19.
<i>Hippocratea vulgaris</i>			<i>Eleocharis</i> sp(s)	1	10.

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR

SITE 4

SURVEYOR J. J. J. 1985

NCR top TF 729 124

NCR bottom TF 725 124

Date + time 24.9.93 9.30 am

Site Length	0.5 km. (500 m.)			0.1 km. (100 m.)			0.01 km. (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Rel Cov		Rel Cov		Rel Cov	
ALGAE:						
Blue-Green Mats			<i>Littorella uniflora</i>		<i>Elodes canadensis</i>	
<i>Batrachospermum sol(0)</i>			<i>Mentha aquatica</i>		<i>Elodes nuttallii</i>	
<i>Hildenbrandia rivularis</i>			<i>Menyanthes trifoliata</i>		<i>Glyceria maxime</i>	
<i>Lemanea fluviatilis</i>			<i>Montia fontana</i>		<i>Glyceria other sol(0)</i>	
<i>Vaucheria sol(0)</i>			<i>Myosotis sol(0)</i>	11 1	<i>Groenlandia dense</i>	
<i>Enteromorpha sol(0)</i>			<i>Myriophyllum alterniflorum</i>		<i>Iris pseudacorus</i>	
<i>Stigeoclonium sol(0)</i>			<i>Myriophyllum spicatum</i>	3 2	<i>Juncus articulatus</i>	
<i>Cladophora sol(0)</i>			<i>Nasturtium officinale agg.</i>	2 2	<i>Juncus bulbosus</i>	
Other filamentous Greens	2+	2	<i>Nuphar lutes</i>		<i>Juncus effusus</i>	
<i>Chara sol(0)</i>			<i>Nymphaea alba</i>		<i>Juncus inflexus</i>	
<i>Nitella sol(0)</i>			<i>Oenanthe crocata</i>		<i>Juncus sol(0)</i>	
LIVERWORTS:			<i>Oenanthe fluviatilis</i>	2	<i>Lemna gibba (gibbous)</i>	
<i>Chiloscyphus polyanthos</i>			<i>Polygonum amphibium</i>		<i>Lemna minor agg</i>	
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>		<i>Lemna trisulca</i>	
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>		<i>Phalaris arundinacea</i>	
<i>Pellia endiviifolia</i>			<i>Ranunculus calcareus</i>		<i>Phragmites australis</i>	
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>		<i>Poiamogeron cloinoides</i>	
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>		<i>Poiamogeron berchtoldii</i>	
<i>Solenostoma sol(0)</i>			<i>Ranunculus fluitans</i>		<i>Poiamogeron crispus</i>	
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>		<i>Poiamogeron friesii</i>	
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>		<i>Poiamogeron gramineus</i>	
MOSSES:			<i>Ranunculus peltatus</i>		<i>Poiamogeron lucens</i>	
<i>Amplistyrium fluviale</i>			<i>Ranunculus penicillatus</i>	4 2	<i>Poiamogeron natans</i>	
<i>Amblystegium rigarium</i>			<i>Ranunculus trichophyllus</i>		<i>Poiamogeron decinatus</i>	
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>		<i>Poiamogeron persfoliatus</i>	
<i>Fontinalis antipyretica</i>			<i>Ranunculus inde:</i>		<i>Poiamogeron polygonifol</i>	
<i>Fontinalis souamosa</i>			<i>Rorippa amphibia</i>		<i>Poiamogeron oraeonozus</i>	
<i>Hydrophynum luridum</i>			<i>Rumex hydrolaetum</i>		<i>Poiamogeron pusillus</i>	
<i>Hydrophynum ochraceum</i>			<i>Solenum dulcamara</i>		<i>Poiamogeron inde:</i>	
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>		<i>Poiamogeron other sol(0)</i>	
<i>Rhynchostezium riariooides</i>			<i>Veronica beccabunga</i>		<i>Scirparia sagittifolia</i>	
<i>Sohagnum sol(0)</i>			<i>Veronica catenata</i>		<i>Scirpus fluitans</i>	
Mosses indet			MONOCOTYLEDONS:			
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>		<i>Scirpus maritimus</i>	
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>		<i>Scirzaniun angustifolium</i>	
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>		<i>Scirzaniun emersum</i>	
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>		<i>Scirzaniun erectum</i>	
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>		<i>Spirodela polyrrhiza</i>	
<i>Adium inundatum</i>			<i>Butomus umbellatus</i>		<i>Typha latifolia</i>	
<i>Adium nodiflorum</i>	2	1	<i>Carex acuta</i>		<i>Zannichellia palustris</i>	
<i>Berula erecta</i>			<i>Carex acutiformis</i>		ADDITIONS:	
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>		1.	
<i>C. hermannioides</i>			<i>Carex elata</i>		2.	
<i>Callitricha obtusangula</i>			<i>Carex geniculata</i>		3.	
<i>Callitricha glaucocarpa</i>			<i>Carex riparia</i>		4.	
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>		5.	
<i>Callitricha inde:</i>	2	1	<i>Carex vesicaria</i>		6.	
<i>Caltha palustris</i>			<i>Carex inde</i>		7.	
<i>Ceratophyllum demersum</i>			<i>Carex other sol(0)</i>		8.	
<i>Eelioodium hirsutum</i>	2	1	<i>Calobrosa aquatica</i>		9.	
<i>Hippurus vulgaris</i>			<i>Eleocharis sol(0)</i>		10.	

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR

SITE 4

SURVEYOR J. James

NGR top TF 729 124

NGR bottom TF 725 121

Date - time 24.9.93 10.30am

Site Length	0.5 km (500 m)	0.1 km (100 m)	0.01 km (10 m)				
Cover scale	A	B	A	B	A	B	C

	Rel Cov		Rel Cov		Rel Cov
ALGAE:			<i>Littorella uniflora</i>		<i>Eiodes canadensis</i>
Blue-Green Mats	1	1	<i>Mentha aquatica</i>		<i>Eiodes nuttallii</i>
<i>Baccharospermum</i> sp(s)			<i>Menyanthes trifoliata</i>		<i>Glyceria maxime</i>
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>		<i>Glyceria other</i> sp(s)
<i>Lemanea fluviatilis</i>			<i>Mosotris</i> sp(s)		<i>Groenlandia dense</i>
<i>Vaucheria</i> sp(s)			<i>Mosotris aquaticum</i>		<i>Iris pseudacorus</i>
<i>Enteromorpha</i> sp(s)			<i>Myriophyllum alterniflorum</i>		<i>Juncus acutiflorus</i>
<i>Stigeclonium</i> sp(p)			<i>Myriophyllum spicatum</i>	2	<i>Juncus articulatus</i>
<i>Cladophora</i> sp(p)			<i>Nasturtium officinale</i> agg.	2	<i>Juncus bulbosus</i>
Other filamentous Greens	4	2	<i>Nuphar lutea</i>		<i>Juncus effusus</i>
<i>Chara</i> sp(s)			<i>Nymphaea alba</i>		<i>Juncus inflexus</i>
<i>Nitella</i> sp(s)			<i>Oenanthe crocata</i>		<i>Juncus solo</i>
LIVERWORTS:			<i>Oenanthe fluviatilis</i>		<i>Lemna ziboc (ribbous)</i>
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>		<i>Lemna minor</i> agg
<i>Marsuella emarginata</i>			<i>Potentilla palustris</i>		<i>Lemna trisulca</i>
<i>Nardia comarensis</i>			<i>Ranunculus aquatilis</i>		<i>Phalaris arundinacea</i>
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>		<i>Phragmites australis</i>
<i>Peltia epiphylla</i>			<i>Ranunculus circinatus</i>		<i>Potamogeton clatinus</i>
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>		<i>Potamogeton berchtoldii</i>
<i>Solenostoma</i> sp(p)			<i>Ranunculus fluitans</i>		<i>Potamogeton crispus</i>
Foliose Liverworts inde:			<i>Ranunculus hederaceus</i>		<i>Potamogeton friesii</i>
Thalloid Liverworts Inde:			<i>Ranunculus omiophyllus</i>		<i>Potamogeton gramineus</i>
MOSSES:			<i>Ranunculus peltatus</i>		<i>Potamogeton lucens</i>
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>	4	<i>Potamogeton natans</i>
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>		<i>Potamogeton pectinatus</i>
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>		<i>Potamogeton perfoliatus</i>
<i>Fontinalis antipyretica</i>			<i>Ranunculus inde</i>		<i>Potamogeton polygonifol</i>
<i>Fontinalis savannosa</i>			<i>Rorippa amphibia</i>		<i>Potamogeton praelongus</i>
<i>Hydrophynum luridum</i>			<i>Rumex hydrolapathum</i>		<i>Potamogeton pusillus</i>
<i>Hydrophynum ochraceum</i>			<i>Solanum dulcamara</i>		<i>Potamogeton inde</i>
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>		<i>Potamogeton other</i> sp(s)
<i>Rhynchosciadium riparioides</i>			<i>Veronica beccabunga</i>		<i>Sazieria sazierifolia</i>
<i>Sphaerum solo</i>			<i>Veronica catenata</i>		<i>Scirpus fluvians</i>
Mosses inde			MONOCOTYLEDONS:		<i>S. lacustris/taberneemon</i>
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>		<i>Scirpus maritimus</i>
<i>Azolla filiculoides</i>			<i>Aerostis stolonifera</i>		<i>Scozaniun aneuystifolium</i>
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>		<i>Scozaniun emersum</i>
<i>Equisetum aculestre</i>			<i>Alisma plantago-aquatica</i>		<i>Scozaniun erectum</i>
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>		<i>Spiradela polyrrhize</i>
<i>Apium inundatum</i>			<i>Butomus umbellatus</i>		<i>Typha latifolia</i>
<i>Apium nodiflorum</i>	5	2	<i>Carex acuta</i>		<i>Zannichellia palustris</i>
<i>Berula erecta</i>			<i>Carex acutiformis</i>		ACTIONS:
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>		<i>Scrophularia auriculata</i>
<i>C. hermafroditica</i>			<i>Carex elata</i>		1.
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>		2.
<i>Callitricha glervarga</i>			<i>Carex rostrata</i>		3.
<i>Callitricha stenocarpa</i>			<i>Carex vesicaria</i>		4.
<i>Callitricha inde</i>	2	1	<i>Carex inde</i>		5.
<i>Caltha palustris</i>			<i>Carex other</i> sp(s)		6.
<i>Ceratophyllum demersum</i>			<i>Calabrosa aquatica</i>		7.
<i>Eglobiium hirsutum</i>	2	1	<i>Eleocharis solo</i>		8.
<i>Hippuris vulgaris</i>					9.
					10.

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR.

SITE S

SURVEYOR J. James

NGR top TF 747 133

NGR bottom TF 745 132

Date - time 25.9.93 9.30 am

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	(A)	B	C

	Ref	Cov		Ref	Cov		Ref	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Eloides canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>			<i>Eloides nuttallii</i>		
<i>Baccharispermum</i> sol(p)			<i>Menthae trifoliae</i>			<i>Glyceria maxima</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sol(p)</i>		
<i>Lemnaea fluviciliis</i>			<i>Myosotis sol(p)</i>			<i>Oenanthe clandestina</i>		
<i>Vaucheria sol(p)</i>			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha sol(p)</i>			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Streblonium sol(p)</i>			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora sol(p)</i>			<i>Nasturtium officinale agg.</i>			<i>Juncus bulbosus</i>		
Other filamentous Greens	5	3	<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara</i> sol(p)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sol(p)			<i>Oenanthe crocata</i>			<i>Juncus sol(p)</i>		
LIVERWORTS:			<i>Oenanthe fluviciliis</i>			<i>Lemna gibba (gibbous)</i>		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg.</i>		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton cliviculus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sol(p)			<i>Ranunculus fluitans</i>	2		<i>Potamogeton crispus</i>		
Foliose Liverworts Indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>	1	1	<i>Ranunculus trichophyllum</i>			<i>Potamogeton octonarius</i>		
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus inde?</i>			<i>Potamogeton polystachys</i>		
<i>Fontinalis squamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton gramineus</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hygrohypnum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton inde?</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sol(p)</i>		
<i>Rhynchosciadium ripariooides</i>			<i>Veronica beccabunga</i>			<i>Scirpus sylvaticus</i>		
<i>Sohaznum</i> sol(p)			<i>Veronica catenata</i>			<i>Scirpus fluviatilis</i>		
Mosses Index			MONOCOTYLEDONS:			<i>S. lacustris/tuberculifer</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Aerostis stolonifera</i>			<i>Soarzaniun anzustisoli</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Soarzaniun emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Soarzaniun erectum</i>		
DICOTYLEDONS:			<i>Aldoecurus reniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Adium inundatum</i>			<i>Buettomia umbellata</i>			<i>Typha latifolia</i>		
<i>Adium nodiflorum</i>	4	2	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			1.		
<i>C. hermagphrodita</i>			<i>Carex elata</i>			2.		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			3.		
<i>Callitricha ovalvegae</i>			<i>Carex riparia</i>			4.		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitricha inde?</i>			<i>Carex vesicaria</i>			6.		
<i>Calliche palustris</i>			<i>Carex inde?</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sol(p)</i>			8.		
<i>Eglobiuim hirsutum</i>			<i>Carabrosa aquatica</i>			9.		
<i>Hippurus vulgaris</i>			<i>Eleocharis sol(p)</i>			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR

SITE 5

SURVEYOR J. JAMES

NCR top TF 747 133

NCR bottom TF 745 132

Date - time 25.9.93 10.30 am

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Ref	Cov		Ref	Cov		Ref	Cov
ALGAE:								
Blue-Green Mats				<i>Littorella uniflora</i>			<i>Elodea canadensis</i>	
<i>Baccharospermum</i> sp(s)				<i>Mentha aquatica</i>			<i>Eliodes nuttallii</i>	
<i>Hiidenbrendia rivularis</i>				<i>Menyanthes trifoliata</i>			<i>Glyceria maxima</i>	
<i>Lemanea fluviatilis</i>				<i>Montia fontana</i>			<i>Glyceria other</i> sp(s)	
<i>Vaucheria</i> sp(s)				<i>Moscosus</i> sp(s)	2		<i>Groenlandia densa</i>	
<i>Enteromorphia</i> sp(s)				<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>	
<i>Stigeclonium</i> sp(s)				<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>	
<i>Cladophora</i> sp(s)				<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>	
Other filamentous Greens	3	2		<i>Nasturtium officinale</i> agg.			<i>Juncus bulbosus</i>	
<i>Chara</i> sp(s)				<i>Nuphar lutea</i>			<i>Juncus effusus</i>	
<i>Nicella</i> sp(s)				<i>Nymphaea alba</i>			<i>Juncus inflexus</i>	
LIVERWORTS:				<i>Oenanthe crocata</i>			<i>Juncus</i> sp(s)	
<i>Chiloscyphus polyanthus</i>				<i>Oenanthe fluviatilis</i>			<i>Lemna gibba</i> (gibbous)	
<i>Marsupella emarginata</i>				<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg	
<i>Nardia compressa</i>				<i>Potentilla palustris</i>			<i>Lemna trisulca</i>	
<i>Peltia endiviifolia</i>				<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	
<i>Peltia eschscholtzii</i>				<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>	
<i>Scapania undulata</i>				<i>Ranunculus circinatus</i>			<i>Poetrorhizon alpinus</i>	
<i>Solenostoma</i> sp(s)				<i>Ranunculus flammula</i>			<i>Poetrorhizon berchtoldii</i>	
Foliose Liverworts Inde:				<i>Ranunculus fluitans</i>			<i>Poetrorhizon crispus</i>	
Thalloid Liverworts Inde:				<i>Ranunculus hederaceus</i>			<i>Poetrorhizon friesii</i>	
				<i>Ranunculus omiophyllus</i>			<i>Poetrorhizon gramineus</i>	
MOSSES:				<i>Ranunculus peltatus</i>			<i>Poetrorhizon lucens</i>	
<i>Amblystegium fluviatile</i>				<i>Ranunculus penicillatus</i>			<i>Potamogeton narcissus</i>	
<i>Amblystegium riparium</i>				<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>	
<i>Cinclidorus fontinaloides</i>				<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>	
<i>Fontinalis antipyretica</i>				<i>Ranunculus indet</i>			<i>Potamogeton polygonifol</i>	
<i>Fontinalis squamosa</i>				<i>Rorippa amphibia</i>			<i>Potamogeton praetextus</i>	
<i>Hydrolyconum luridum</i>				<i>Rumex hydrolaetum</i>			<i>Potamogeton pusillus</i>	
<i>Hydrophynum ochraceum</i>				<i>Solanum dulcamara</i>			<i>Potamogeton inde:</i>	
<i>Racomitrium aciculare</i>				<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other</i> sp(s)	
<i>Rhynchosciadium riariooides</i>				<i>Veronica beccabunga</i>			<i>Scirpus sagittifolia</i>	
<i>Sohagnum</i> sp(s)				<i>Veronica catenata</i>			<i>Scirpus fluvians</i>	
Mosses Inde:							<i>S. lacustris/labernaeon</i>	
VASCULAR CRYPTOGAMS:							<i>Scirpus maritimus</i>	
<i>Azolla filiculoides</i>				<i>Acorus calamus</i>			<i>Soarzaniun angustifolium</i>	
<i>Equisetum fluviatile</i>				<i>Agrostis stolonifera</i>			<i>Soarzaniun emersum</i>	2
<i>Equisetum acutstre</i>				<i>Alisma lanceolatum</i>			<i>Soarzaniun erectum</i>	
DICOTYLEDONS:				<i>Alisma plantago-aquatica</i>			<i>Spiradela polyrrhiza</i>	
<i>Apium inundatum</i>				<i>Alopecurus geniculatus</i>			<i>Typha latifolia</i>	
<i>Apium nodiflorum</i>	5	12		<i>Bulomus umbellatus</i>			<i>Zannichellia palustris</i>	
<i>Berula erecta</i>				<i>Carex acuta</i>			ADDITIONS:	
<i>Callitricha hamulata</i>				<i>Carex acutiformis</i>				
<i>C. hermagrophytica</i>				<i>Carex aquatilis</i>				
<i>Callitricha obtusanzula</i>				<i>Carex elata</i>				
<i>Callitricha platycarpa</i>				<i>Carex paniculata</i>				
<i>Callitricha stigmaria</i>				<i>Carex rostrata</i>				
<i>Callitricha inde:</i>				<i>Carex vesicaria</i>				
<i>Caltha palustris</i>				<i>Carex inde</i>				
<i>Ceratophyllum demersum</i>				<i>Carex other</i> sp(s)				
<i>Epilobium hirsutum</i>				<i>Carabrosa aquatica</i>				
<i>Hiosurus vulgaris</i>				<i>Eleocharis</i> sp(s)				

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR

SITE 5

SURVEYOR J. JAMES

NGR top TF 747 133

NGR bottom TF 745 132

Date - time 25.9.93 11.30 am

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Rel	Cov		Rel	Cov		Rel	Cov	
ALGAE:			<i>Littorella uniflora</i>			<i>Eloides canadensis</i>			
Blue-Green Mats			<i>Mentha aquatica</i>			<i>Eloides nuttallii</i>			
<i>Betrachospermum sp(s)</i>			<i>Menyanthes trifoliata</i>			<i>Glyceria maxima</i>			
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(s)</i>			
<i>Lemanea fluviatilis</i>			<i>Myosotis sp(s)</i>	2	1	<i>Groenlandia densa</i>			
<i>Vaucheria sp(s)</i>			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>			
<i>Enteromorphia sp(s)</i>			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>			
<i>Stigeonionum sp(s)</i>			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>			
<i>Cladophora sp(s)</i>			<i>Nasturtium officinale agg.</i>	5	3	<i>Juncus bulbosus</i>			
Other filamentous Greens	3	2	<i>Nuphar lutea</i>			<i>Juncus effusus</i>			
<i>Chara sp(s)</i>			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>			
<i>Nitella sp(s)</i>			<i>Oenanthe crocata</i>			<i>Juncus solo</i>			
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibbous)</i>			
<i>Chiloscyphus polyanthos</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg</i>			
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>			
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>			
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>			
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton elatior</i>			
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>			
<i>Solenostoma sp(p)</i>			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>			
Foliose Liverworts Indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>			
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>			
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>			
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>	2	2	<i>Potamogeton natans</i>			
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>			
<i>Cinclidolus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>			
<i>Fontinalis antipyretica</i>			<i>Ranunculus inde</i>			<i>Potamogeton polygonifol</i>			
<i>Fontinalis sauamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton grælonius</i>			
<i>Hydrophynum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>			
<i>Hydrophynum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton inde</i>			
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sp(s)</i>			
<i>Rhynchosciadium ripariooides</i>			<i>Veronica beccabunga</i>			<i>Scirpus sylvaticus</i>			
<i>Sphaerium sp(s)</i>			<i>Veronica catenata</i>			<i>Scirpus fluvialis</i>			
Mosses Indet						<i>S. lacustris/tabernaemont</i>			
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>			
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>			<i>Soarzenium angustifolium</i>			
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Soarzenium emersum</i>	4	2	
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Soarzenium erectum</i>	3		
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>			
<i>Apium inundatum</i>			<i>Buromus umbellatus</i>			<i>Typha latifolia</i>			
<i>Apium nodiflorum</i>	3	2	<i>Carex acuta</i>			<i>Zannichellia palustris</i>			
<i>Berula erecta</i>			<i>Carex acutiformis</i>						
<i>Callitrichia hamulata</i>			<i>Carex aquatilis</i>			ADDITIONS:			
<i>C. hermaphroditica</i>			<i>Carex elata</i>			1. <i>Conocochleum concinnum</i>			
<i>Callitrichia obtusifolia</i>			<i>Carex paniculata</i>			2. (<i>Liverwort T</i>)			
<i>Callitrichia platycarpa</i>			<i>Carex riparia</i>			3. <i>Scrophularia auriculata</i>			
<i>Callitrichia stenalis</i>			<i>Carex rostrata</i>			4.			
<i>Callitrichia inde</i>	2	2	<i>Carex vesicaria</i>			5.			
<i>Celtis peludaris</i>			<i>Carex inde</i>			6.			
<i>Ceratophyllum demersum</i>			<i>Carex other sp(s)</i>			7.			
<i>Eoiloobium hirsutum</i>			<i>Calobroca aquatica</i>			8.			
<i>Hippocratea vulgaris</i>			<i>Eleocharis sp(p)</i>			9.			
						10.			

MACROPHYTES IN WATERCOURSES—FIELD CHECK-LIST

RIVER NAK SITE 6 SURVEYOR J. James
 NGR top TF 745 132 NGR bottom TF 740 132 Date - time 25.9.93 12pm

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	(A)	B	C

	Rel Cov		Rel Cov		Rel Cov
ALGAE:					
Blue-Green Mats		<i>Littorella uniflora</i>			<i>Elodes canadensis</i>
<i>Baccharospermum</i> sp(s)		<i>Mentha aquatica</i>			<i>Elodes nastallii</i>
<i>Hildenbrandia rivularis</i>		<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>
<i>Lemanea fluviatilis</i>		<i>Monia fontana</i>			<i>Glyceria other sp(s)</i>
<i>Vaucheria</i> sp(s)		<i>Myosotis</i> sp(s)	1 2		<i>Groenlandia dense</i>
<i>Enteromorpha</i> sp(s)		<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>
<i>Stizoclonium</i> sp(s)		<i>Myriophyllum alterniflorum</i>	5	3	<i>Juncus acutiflorus</i>
<i>Cladophora</i> sp(s)		<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>
Other filamentous Greens	3	2	<i>Nasturtium officinale</i> agg.	3 2	<i>Juncus bulbosus</i>
<i>Chara</i> sp(s)		<i>Nuphar lutea</i>			<i>Juncus effusus</i>
<i>Nitella</i> sp(s)		<i>Nymphaea alba</i>			<i>Juncus inflexus</i>
LIVERWORTS:			<i>Oenanthe fluviatilis</i>		<i>Lemna gibba (gibbous)</i>
<i>Chiloscyphus polyanthus</i>		<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg.
<i>Marsupella emarginata</i>		<i>Potentilla palustris</i>			<i>Lemna trisulca</i>
<i>Nardia compressa</i>		<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>
<i>Pella endiviifolia</i>		<i>Ranunculus calcaratus</i>			<i>Phragmites australis</i>
<i>Pellia epiphylla</i>		<i>Ranunculus circinatus</i>			<i>Poiamoepon elatinus</i>
<i>Scozia undulata</i>		<i>Ranunculus flammula</i>			<i>Poiamoepon berchtoldii</i>
<i>Solenostoma</i> sp(s)		<i>Ranunculus fluitans</i>			<i>Poiamoepon crispus</i>
Foliose Liverworts inde		<i>Ranunculus hederaceus</i>			<i>Poiamoepon frietii</i>
Thalloid Liverworts Inde		<i>Ranunculus omiophyllus</i>			<i>Poiamoepon gramineus</i>
MOSSES:			<i>Ranunculus peltatus</i>		<i>Poiamoepon lucens</i>
<i>Amblystezium fluviatile</i>		<i>Ranunculus penicillatus</i>	2	1	<i>Poiamoepon narans</i>
<i>Amblystezium riparium</i>		<i>Ranunculus trichophyllum</i>			<i>Poiamoepon pectinalius</i>
<i>Cinclidorus fontinoides</i>		<i>Ranunculus sceleratus</i>			<i>Poiamoepon perfoliatus</i>
<i>Fontinalis antipyretica</i>		<i>Ranunculus inde</i>			<i>Poiamoepon polygonifol</i>
<i>Fontinalis sphaeroides</i>		<i>Rorippa amphibia</i>			<i>Poiamoepon praelongus</i>
<i>Hydrohypnum liratum</i>		<i>Rumex hydrocogathum</i>			<i>Poiamoepon pusillus</i>
<i>Hydrohypnum ochraceum</i>		<i>Solanum dulcamara</i>			<i>Poiamoepon inde</i>
<i>Racomitrium aciculare</i>		<i>Veronica anagallis-aquatica</i>			<i>Poiamoepon other sp(s)</i>
<i>Rhynchosierium rigariooides</i>		<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>
<i>Sohegnum</i> sp(s)		<i>Veronica catenata</i>			<i>Scirpus fluvians</i>
Mosses inde		MONOCOTYLEDONS:			<i>S. lacustris/labernemone</i>
VASCULAR CRYPTOGAMS:					<i>Scirpus maritimus</i>
<i>Azolla filiculoides</i>		<i>Acorus calamus</i>			<i>Sorbarium angustifolium</i>
<i>Equisetum fluviatile</i>		<i>Aegrostis stolonifera</i>			14 12
<i>Equisetum palustre</i>		<i>Alisma lanceolatum</i>			<i>Sparcium emersum</i>
DICOTYLEDONS:			<i>Alisma plantago-aquatica</i>		<i>Sparcium erectum</i>
<i>Adium inundatum</i>		<i>Aldrovadus genicularis</i>			<i>Sirodela polyrrhiza</i>
<i>Adium nodiflorum</i>		<i>Buromus umbellatus</i>			<i>Typha latifolia</i>
<i>Berula erecta</i>		<i>Carex acuta</i>			<i>Zannichellia palustris</i>
<i>Callitricha hamulata</i>		<i>Carex acutiformis</i>			ADDITIONS:
<i>C. hermaphrodita</i>		<i>Carex aquatilis</i>			1. <i>Scrophularia auriculata</i>
<i>Callitricha obesenzula</i>		<i>Carex elata</i>			2.
<i>Callitricha olarværga</i>		<i>Carex paniculata</i>			3.
<i>Callitricha staznalis</i>		<i>Carex riparia</i>			4.
<i>Callitricha inde</i>	2	2	<i>Carex rostrata</i>		5.
<i>Caltha palustris</i>		<i>Carex vesicaria</i>			6.
<i>Ceratophyllum demersum</i>		<i>Carex inde</i>			7.
<i>Epilobium hirsutum</i>		<i>Carex other sp(s)</i>			8.
<i>Hippocratea vulcanis</i>		<i>Catabrosa aquatica</i>			9.
		<i>Eleocharis</i> sp(s)			10.

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 6 SURVEYOR J. James
 NGR top TF 745 132 NGR bottom TF 740 132 Date - time 25.9.93 12 pm

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Rel Cov		Rel Cov		Rel Cov	
ALGAE:						
Blue-Green Mats	1	1	<i>Littorella uniflora</i>	1	<i>Eloeca canadensis</i>	
<i>Batrachospermum sol(0)</i>	1	1	<i>Mentha aquatica</i>	1	<i>Eloeca nuttallii</i>	
<i>Hildenbrandia rivularis</i>	1	1	<i>Menyanthes trifoliata</i>	1	<i>Glyceria maxima</i>	
<i>Lemanea fluviatilis</i>	1	1	<i>Montia fontana</i>	1	<i>Glyceria other sol(0)</i>	
<i>Vaucheria sol(0)</i>	1	1	<i>Myosotis sol(0)</i>	2	<i>Groenlandia dense</i>	
<i>Enteromorpha sol(0)</i>	1	1	<i>Myriophyllum alterniflorum</i>	1	<i>Iris pseudacorus</i>	
<i>Stigeonion sol(0)</i>	1	1	<i>Myriophyllum spicatum</i>	6 12	<i>Juncus acutiflorus</i>	
<i>Cladophora sol(0)</i>	1	1	<i>Nasturtium officinale agg.</i>	4 11	<i>Juncus articulatus</i>	
Other filamentous Greens	3	1	<i>Nuphar lutea</i>	1	<i>Juncus bulbosus</i>	
<i>Chera sol(0)</i>	1	1	<i>Nymphaea alba</i>	1	<i>Juncus effusus</i>	
<i>Nitella sol(0)</i>	1	1	<i>Oenanthe crocata</i>	1	<i>Juncus inflexus</i>	
LIVERWORTS:			<i>Oenanthe fluviatilis</i>	1	<i>Lemna gibba (gibbous)</i>	
<i>Chiloscyphus polyanthos</i>	1	1	<i>Polygonum amphibium</i>	1	<i>Lemna minor agg.</i>	
<i>Marsupella emarginata</i>	1	1	<i>Potentilla palustris</i>	1	<i>Lemna trisulca</i>	
<i>Nardia compressa</i>	1	1	<i>Ranunculus aquatilis</i>	1	<i>Phalaris arundinacea</i>	
<i>Peltia endiviifolia</i>	1	1	<i>Ranunculus calcareus</i>	1	<i>Phragmites australis</i>	
<i>Pellia epiphylla</i>	1	1	<i>Ranunculus circinatus</i>	1	<i>Poecilopeltion alpinus</i>	
<i>Scozia undulata</i>	1	1	<i>Ranunculus flammula</i>	1	<i>Poamogeron berchtoldii</i>	
<i>Solenostoma sp(0)</i>	1	1	<i>Ranunculus fluitans</i>	1	<i>Poamogeron crispus</i>	
Foliose Liverworts Indet	1	1	<i>Ranunculus hederaceus</i>	1	<i>Poamogeron friesii</i>	
Thalloid Liverworts Indet	1	1	<i>Ranunculus omiophyllus</i>	1	<i>Poamogeron gramineus</i>	
MOSSES:			<i>Ranunculus peltatus</i>	1	<i>Poamogeron lucens</i>	
<i>Amblystegium fluviatile</i>	1	1	<i>Ranunculus penicillatus</i>	2	<i>Poamogeron natans</i>	
<i>Amblystegium riparium</i>	1	1	<i>Ranunculus trichophyllum</i>	1	<i>Poamogeron pectinatus</i>	
<i>Cinclidorus fontinaloides</i>	1	1	<i>Ranunculus sceleratus</i>	1	<i>Poamogeron perfoliatus</i>	
<i>Fontinalis antipyretica</i>	1	1	<i>Ranunculus indet</i>	1	<i>Poamogeron polyodonifol</i>	
<i>Fontinalis savannosa</i>	1	1	<i>Rorippa amphibia</i>	1	<i>Poamogeron praetorius</i>	
<i>Hydrohypnum luridum</i>	1	1	<i>Rumex hydrolapathum</i>	1	<i>Poamogeron pusillus</i>	
<i>Hydrohypnum ochraceum</i>	1	1	<i>Solanum dulcamara</i>	1	<i>Poamogeron indet</i>	
<i>Racomitrium aciculare</i>	1	1	<i>Veronica anagallis-aquatica</i>	1	<i>Poamogeron other sol(0)</i>	
<i>Rhynchosciadium riparioides</i>	1	1	<i>Veronica beccabunga</i>	1	<i>Sagittaria sagittifolia</i>	
<i>Sohnenum sol(0)</i>	1	1	<i>Veronica catenata</i>	1	<i>Scirpus fluvians</i>	
Mosses indet	1	1	MONOCOTYLEDONS:			
VASCULAR CRYPTOGAMS:	1	1	<i>Acorus calamus</i>	1	<i>S. Iccistris/labernaeon</i>	
<i>Azolla filiculoides</i>	1	1	<i>Agrostis stolonifera</i>	1	<i>Scirpus maritimus</i>	
<i>Equisetum fluviatile</i>	1	1	<i>Alisma lanceolatum</i>	1	<i>Sparganium angustifolium</i>	
<i>Equisetum palustre</i>	1	1	<i>Alisma plantago-aquatica</i>	1	<i>Sparganium emersum</i>	
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>	1	<i>Sparganium erectum</i>	
<i>Aodium inundatum</i>	1	1	<i>Buromus umbellatus</i>	1	<i>Spirodela polyrrhiza</i>	
<i>Aodium nodiflorum</i>	1	1	<i>Carex acuta</i>	1	<i>Typha latifolia</i>	
<i>Berula erecta</i>	1	1	<i>Carex acutiformis</i>	1	ADDITIONS:	
<i>Callitrichia hamulata</i>	1	1	<i>Carex aquatilis</i>	1	<i>Scrophularia curviflora</i>	
<i>C. hermaphroditica</i>	1	1	<i>Carex elata</i>	1	<i>2. Syringodium filiforme</i>	
<i>Callitrichia obtusangula</i>	1	1	<i>Carex paniculata</i>	1	3.	
<i>Callitrichia pleiacearum</i>	1	1	<i>Carex riparia</i>	1	4.	
<i>Callitrichia stagnalis</i>	1	1	<i>Carex rostrata</i>	1	5.	
<i>Callitrichia indet</i>	2	1	<i>Carex vesicaria</i>	1	6.	
<i>Callichlaena palustris</i>	1	1	<i>Carex inde</i>	1	7.	
<i>Ceratophyllum demersum</i>	1	1	<i>Carex other sol(0)</i>	1	8.	
<i>Epilobium hirsutum</i>	1	1	<i>Calobroa aquatica</i>	1	9.	
<i>Hippuris vulgaris</i>	1	1	<i>Eleocharis sol(0)</i>	1	10.	

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR

SITE 6

SURVEYOR J. Jarvis

NGR top TF 745 132

NGR bottom TF 740 132

Date + time 25.9.93 1pm

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
Blue-Green Mats	1	1	<i>Mentha aquatica</i>			<i>Elodea nuttallii</i>		
<i>Baccharispermum</i> sp(s)			<i>Menyanthes trifoliata</i>			<i>Glyceria maxima</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other</i> sp(s)		
<i>Lemnaea fluviciliis</i>			<i>Myosotis</i> sp(s)	2		<i>Groenlandia densa</i>		
<i>Vaucheria</i> sp(s)			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha</i> sp(s)			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Sneckonium</i> sp(s)			<i>Myriophyllum spicatum</i>	5	5	<i>Juncus articulatus</i>		
<i>Cladophora</i> sp(s)			<i>Nasturtium officinale</i> agg.	3	2	<i>Juncus bulbosus</i>		
Other filamentous Greens	3		<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chora</i> sp(s)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(s)	.		<i>Oenanthe crocata</i>			<i>Juncus</i> sp(s)		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba</i> (gibbous)		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nerdia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Peltia endiviifolia</i>			<i>Ranunculus calcaratus</i>			<i>Phragmites australis</i>		
<i>Peltia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Polemonium acutifolius</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Polemonium brevifolium</i>		
<i>Solenostoma</i> sp(s)			<i>Ranunculus fluitans</i>			<i>Polemonium crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Polemonium friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Polemonium gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Polemonium lucens</i>	2	1
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>	2	2	<i>Polemonium nigrans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Poismogeron decipitatus</i>		
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Poismogeron perfoliatum</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus</i> indet			<i>Poismogeron polygonifol</i>		
<i>Fontinalis saundersii</i>			<i>Roridula amplexicaulis</i>			<i>Poismogeron oraeolongus</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolaetum</i>			<i>Poismogeron pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solenum dulcamara</i>			<i>Poismogeron</i> indet		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Poismogeron</i> other sp(s)		
<i>Rhynchosciadium rigarioides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sohaznum</i> sp(s)			<i>Veronica catenata</i>			<i>Scirpus</i> fluitans		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/cabernaemon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>	2	1	<i>Scirpus angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Scirpus emersum</i>	4	4
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Scirpus erectum</i>		
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Scirpolanthes palustris</i>		
<i>Adium inundatum</i>			<i>Bucomus umbellatus</i>			<i>Typha latifolia</i>		
<i>Adium nodiflorum</i>			<i>Carex acuta</i>			<i>Zannichellia-palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			<i>Scrophularia auriculata</i>		
<i>C. nemaphrodites</i>			<i>Carex elata</i>			<i>Sympodium officinale</i>		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			<i>Thlaspi repens</i>		
<i>Callitricha platycarpa</i>			<i>Carex rostrata</i>	2	1	<i>Urtica dioica</i>		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitricha</i> indet	2	2	<i>Carex vesicaria</i>			6.		
<i>Caltha palustris</i>			<i>Carex</i> indet			7.		
<i>Ceratophyllum demersum</i>			<i>Carex</i> other sp(s)			8.		
<i>Eelobium hirsutum</i>			<i>Carex</i> aquatica			9.		
<i>Hippurus vulgaris</i>			<i>Eleocharis</i> sp(s)			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAK

SITE 7

SURVEYOR J. JAMES

NCR top TF 765 142

NGR bottom TF 760 141

Date - time 24.9.93 3.30 pm

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Eiodes canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>			<i>Eiodes nuttallii</i>		
<i>Baccharispermum</i> sp(s)			<i>Menyanthes trifoliata</i>			<i>Glyceria maxima</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(s)</i>		
<i>Lemanea fluviatilis</i>			<i>Myosotis sylvatica</i>			<i>Grenlandia dense</i>		
<i>Vaucheria</i> sp(s)			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorphia</i> sp(s)			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeonion</i> sp(s)			<i>Myriophyllum spicatum</i>			<i>Juncus cruciatus</i>		
<i>Cladophora</i> sp(s)			<i>Nasturtium officinale agg.</i>			<i>Juncus bulbosus</i>		
Other filamentous Greens			<i>Niuea lutea</i>			<i>Juncus effusus</i>		
<i>Chera</i> sp(p)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(p)			<i>Oenanthe crocata</i>			<i>Juncus sp(s)</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (elboous)</i>		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg</i>		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sp(p)			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>	5	1	<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton declinatus</i>		
<i>Cinclidium fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus indet</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis squamosa</i>			<i>Roridula amplexica</i>			<i>Potamogeton praecox</i>		
<i>Hydrohypnum tauridum</i>			<i>Rumex hydrocotyle</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton incert</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sp(s)</i>		
<i>Rhynchosciadium riparioides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sohagnum</i> sp(s)			<i>Veronica catenata</i>			<i>Scirpus fluviatilis</i>		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/capernaemon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Aegagrus stolonifera</i>			<i>Sparganium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Sparganium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Sparganium erectum</i>		
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Apium inundatum</i>			<i>Butomus umbellatus</i>			<i>Typha latifolia</i>		
<i>Agium nodiflorum</i>	2		<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitrichia hemularia</i>			<i>Carex aquatilis</i>			<i>Conocaulum concavum</i>		
<i>C. hermafroditica</i>			<i>Carex elata</i>			2. (LIVERWORT)		
<i>Callitrichia obrusenzula</i>			<i>Carex paniculata</i>			3.		
<i>Callitrichia pluricarpa</i>			<i>Carex riparia</i>			4.		
<i>Callitrichia siccicola</i>			<i>Carex rostrata</i>			5.		
<i>Callitrichia indet</i>	3		<i>Carex vesicaria</i>			6.		
<i>Caita palustris</i>			<i>Carex indet</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sp(s)</i>			8.		
<i>Equisetum hirsutum</i>			<i>Catabrosa aquatica</i>			9.		
<i>Hippuris vulgaris</i>			<i>Eleocharis sp(s)</i>			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 7 SURVEYOR J. JAMES
 NGR top TF 765 142 NGR bottom TF 760 141 Date + time 24.9.93 4.30pm

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Rel Cov		Rel Cov		Rel Cov
ALGAE:					
Blue-Green Mats		<i>Littorina uniflora</i>		<i>Elodea canadensis</i>	
<i>Baccharospermum sol(p)</i>		<i>Meniaea aquatica</i>		<i>Elodea nuttallii</i>	
<i>Hildenbrandia rivularis</i>		<i>Mesocnemis trifoliatas</i>		<i>Glyceria maxima</i>	
<i>Lemnaea fluvicallis</i>		<i>Montia fontana</i>		<i>Glyceria other sol(p)</i>	
<i>Veucheria sol(p)</i>		<i>Myosotis sol(p)</i>		<i>Groenlandia densa</i>	
<i>Enteromorphia sol(p)</i>		<i>Myosoton aquaticum</i>		<i>Iris pseudacorus</i>	
<i>Stigeclonium sol(p)</i>		<i>Myriophyllum alterniflorum</i>		<i>Juncus acutiflorus</i>	
<i>Cladophora sol(p)</i>		<i>Myriophyllum spicatum</i>		<i>Juncus articulatus</i>	
Other filamentous Greens		<i>Nasturtium officinale agg.</i>	3	2	<i>Juncus bulbosus</i>
<i>Chera sol(p)</i>		<i>Nucula lutea</i>		<i>Juncus effusus</i>	
<i>Nitella sol(p)</i>		<i>Nymphaea alba</i>		<i>Juncus inflexus</i>	
LIVERWORTS:					
<i>Chiloscyphus polyanthus</i>		<i>Polygonum amphibium</i>		<i>Lemna minor agg</i>	
<i>Marsupella emarginata</i>		<i>Potentilla palustris</i>		<i>Lemna trisulca</i>	
<i>Nardia comosa</i>		<i>Ranunculus aquatilis</i>		<i>Phalaris arundinacea</i>	
<i>Pella endiviifolia</i>		<i>Ranunculus calcareus</i>		<i>Phragmites australis</i>	
<i>Pellia epiphylla</i>		<i>Ranunculus circinatus</i>		<i>Potamogeton alpinus</i>	
<i>Scapania undulata</i>		<i>Ranunculus flammula</i>		<i>Potamogeton berchtoldii</i>	
<i>Solenostoma sol(p)</i>		<i>Ranunculus fluitans</i>		<i>Potamogeton crispus</i>	
Foliaceous Liverworts indet.		<i>Ranunculus hederaceus</i>		<i>Potamogeton friesii</i>	
Thalloid Liverworts Indet.		<i>Ranunculus omiophyllus</i>		<i>Potamogeton gramineus</i>	
MOSSES:					
<i>Amblystegium fluviatile</i>		<i>Ranunculus peltatus</i>	4	2	<i>Potamogeton natans</i>
<i>Amblystegium riparium</i>		<i>Ranunculus penicillatus</i>		<i>Potamogeton pectinatus</i>	
<i>Cinclidorus fontinaloides</i>		<i>Ranunculus sceleratus</i>		<i>Potamogeton perfoliatus</i>	
<i>Fontinalis antipyretica</i>		<i>Ranunculus indet</i>		<i>Potamogeton polygonifol</i>	
<i>Fontinalis squamosa</i>		<i>Roridula amplexica</i>		<i>Potamogeton praetorius</i>	
<i>Hydrolypnum luridum</i>		<i>Rumex hydrolapathum</i>		<i>Potamogeton pusillus</i>	
<i>Hydrolypnum ochraceum</i>		<i>Solenum dulcamara</i>		<i>Potamogeton indet</i>	
<i>Racomitrium aciculare</i>		<i>Veronica cragatalis-aquatica</i>		<i>Potamogeton other sol(p)</i>	
<i>Rhynchosciadium riparioides</i>		<i>Veronica beccabunga</i>		<i>Sagittaria sagittifolia</i>	
<i>Sohagnum sol(p)</i>		<i>Veronica catenata</i>		<i>Scirpus fluvians</i>	
Mosses indet.		MONOCOTYLEDONS:		<i>S. lacustris/caberndaeon</i>	
VASCULAR CRYPTOGAMS:					
<i>Azolla filiculoides</i>		<i>Acorus calamus</i>		<i>Scirpus maritimus</i>	
<i>Equisetum fluviatile</i>		<i>Aegrostis stolonifera</i>		<i>Soerganium angustifolium</i>	
<i>Equisetum palustre</i>		<i>Alisma lanceolatum</i>		<i>Soerganium emersum</i>	2
DICOTYLEDONS:					
<i>Apium inundatum</i>		<i>Alisma plantago-aquatica</i>		<i>Soerganium erectum</i>	
<i>Apium nodiflorum</i>	2	<i>Alopecurus geniculatus</i>		<i>Spirodela polyrrhiza</i>	
<i>Berula erecta</i>		<i>Bu托omus umbellatus</i>		<i>Typha latifolia</i>	
<i>Callitricha hamulata</i>		<i>Carex acuta</i>		<i>Zannichellia palustris</i>	
<i>C. herpestochroistica</i>		<i>Carex acutiformis</i>		ADDITIONS:	
<i>Callitricha obtusangula</i>		<i>Carex acutifolia</i>		1. <i>Convolvulus sepium</i>	
<i>Callitricha oliverae</i>		<i>Carex elata</i>		2. <i>Parviflora repens</i>	2
<i>Callitricha stazinalis</i>		<i>Carex paniculata</i>		3.	
<i>Callitricha indet</i>	2	<i>Carex rostrata</i>		4.	
<i>Calitha palustris</i>		<i>Carex vesicaria</i>		5.	
<i>Ceratophyllum demersum</i>		<i>Carex indet</i>		6.	
<i>Eoileobium hirsutum</i>		<i>Carex other sol(p)</i>		7.	
<i>Hippuris vulgaris</i>		<i>Carcarosa aquatica</i>		8.	
		<i>Eleocharis sol(p)</i>		9.	
		<i>Equisetum palustre</i>		10.	

MACROPHYTES IN WATERCOURSES—FIELD CHECK-LIST

RIVER NAR

SITE 7

SURVEYOR J. JAMES

NCR top TF 765 142

NCR bottom TF 760 141

Date - time 24. 9. 93 5.30am

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodes canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>	/	/	<i>Elodes nuttallii</i>		
<i>Baccharispermum sol(p)</i>			<i>Menyanthes trifoliata</i>	/	/	<i>Glyceria maximae</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>	/	/	<i>Glyceria other sol(p)</i>		
<i>Lemanea fluviatilis</i>			<i>Mosotis sol(p)</i>	2	/	<i>Groenlandia densa</i>		
<i>Veucheria sol(p)</i>			<i>Mosotis aquaticum</i>	/	/	<i>Iris pseudacorus</i>		
<i>Enteromorphia sol(c)</i>			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeonionum sol(p)</i>			<i>Myriophyllum spicatum</i>	/	/	<i>Juncus articulatus</i>		
<i>Cladophora sol(p)</i>			<i>Nasturtium officinale agg.</i>	14	2	<i>Juncus bulbosus</i>		
Other filamentous Greens	2	/	<i>Najas lutea</i>	/	/	<i>Juncus effusus</i>		
<i>Chara sol(p)</i>			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella sol(p)</i>			<i>Oenanthe crocata</i>			<i>Juncus sol(p)</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibbous)</i>		
<i>Chiloscyphus polyanthus</i>			<i>Polytrichum commune</i>			<i>Lemna minor agg.</i>		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia comosa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	2	/
<i>Pellia endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scagelia undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma sol(p)</i>			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts inde:			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Inde:			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>	15	2	<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton declinatus</i>		
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton persfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus inde:</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis squamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praetorius</i>		
<i>Hydrolypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrolypnum ochraceum</i>			<i>Solenum dulcamara</i>	/	/	<i>Potamogeton inde:</i>		
<i>Recomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sol(p)</i>		
<i>Rhynchosciadium riparioides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sohnia sol(p)</i>			<i>Veronica calcarata</i>			<i>Scirpus fluvians</i>		
Mosses inde:			MONOCOTYLEDONS:			<i>S. lacustris/cibernaeon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Azostis stolonifera</i>			<i>Sphaeranium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>	/	/	<i>Sphaeranium emersum</i>	4	2
<i>Equisetum acustre</i>			<i>Alisma plantago-aquatica</i>	/	/	<i>Sphaeranium erectum</i>		
DICOTYLEDONS:			<i>Alodecurus geniculatus</i>	/	/	<i>Spirodela polyrrhiza</i>		
<i>Adium inundatum</i>			<i>Buettikeria umbellata</i>			<i>Typha latifolia</i>		
<i>Adium nodiflorum</i>	2	/	<i>Carex acuta</i>	/	/	<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitrichia hamulata</i>			<i>Carex aquatilis</i>			<i>1. Carex echinata</i>		
<i>C. hermannioides</i>			<i>Carex elata</i>			<i>2. Ranunculus repens</i>	2	/
<i>Callitrichia obtusaneura</i>			<i>Carex paniculata</i>			<i>3. Scrophularia duriculata</i>		
<i>Callitrichia olivaceoargentea</i>			<i>Carex rostrata</i>			<i>4.</i>		
<i>Callitrichia siccinalis</i>			<i>Carex vesicaria</i>			<i>5.</i>		
Callitrichia inde:	3	2	<i>Carex inde:</i>			<i>6.</i>		
<i>Caltha palustris</i>			<i>Carex other sol(p)</i>			<i>7.</i>		
<i>Ceratophyllum demersum</i>			<i>Carex inde:</i>			<i>8.</i>		
<i>Eelobium hirsutum</i>	1	1	<i>Carex inde:</i>			<i>9.</i>		
<i>Hippurus vulgaris</i>	1	1	<i>Eleocharis sol(p)</i>			<i>10.</i>		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR

SITE 8

SURVEYOR J. JONES

NGR top TF 783 152

NGR bottom TF 779 148

Date + time 24.9.93 12 pm

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			Littorella uniflora			Elozia canadensis		
Blue-Green Mats	1		<i>Mentha aquatica</i>			<i>Elozia nuttallii</i>		
<i>Baccharispermum sol(p)</i>	1		<i>Mentha trifolia</i>			<i>Glyceria maxima</i>		
<i>Hildenbrandia rivularis</i>	1		<i>Monia fontana</i>			<i>Glyceria other sol(p)</i>		
<i>Lemanea fluviciliis</i>	1		<i>Myosotis sol(p)</i>			<i>Greenlandia densa</i>		
<i>Vaucheria sol(p)</i>	1		<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorphia sol(p)</i>	1		<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeclonium sol(p)</i>	1		<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophore sol(p)</i>	1		<i>Nasturtium officinale agg.</i>	2		<i>Juncus bulbosus</i>		
Other filamentous Greens	S	3	<i>Nuphar lutes</i>			<i>Juncus effusus</i>		
<i>Chara sol(p)</i>			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella sol(p)</i>	1		<i>Oenanthe crocata</i>			<i>Juncus sol(p)</i>		
LIVERWORTS:			<i>Oenanthe fluviciliis</i>			<i>Lemna gibba (gibbous)</i>		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg</i>		
<i>Marsupella emarginata</i>			<i>Potentilla ocularis</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Peltia endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma sol(p)</i>			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts Indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Foninalis antivretica</i>			<i>Ranunculus indet</i>			<i>Potamogeton polygonifol</i>		
<i>Foninalis scuamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton parvifolius</i>		
<i>Hydrocharum luridum</i>			<i>Rumex hydrolagatum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrocharum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton indet</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sol(p)</i>		
<i>Rhynchosciadium riariooides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sohagenia sol(p)</i>			<i>Veronica catenata</i>			<i>Scirpus fluviatilis</i>		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/taurina</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Aerostis stolonifera</i>	2	1	<i>Soarzaniun angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Soarzaniun emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Soarzaniun erectum</i>		
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Adium inundatum</i>			<i>Bucomus umbellatus</i>			<i>Typha latifolia</i>		
<i>Adium nodiflorum</i>	2	-1	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			<i>Scrophularia auriculata</i>		
<i>C. hermagphrodita</i>			<i>Carex elatior</i>			2.		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			3.		
<i>Callitricha platycarpa</i>			<i>Carex riparia</i>			4.		
<i>Callitricha stoechalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitricha indet</i>			<i>Carex vesicaria</i>			6.		
<i>Caltha palustris</i>			<i>Carex indet</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sol(p)</i>			8.		
<i>Eglobiuum hirsutum</i>			<i>Calobroza aquatica</i>			9.		
<i>Hippocratea vulgaris</i>			<i>Eleocharis sol(p)</i>			10.		

SITE 15

MACROPHYTES IN WATERCOURSES—FIELD CHECK-LIST

RIVER NAR

SITE 8

SURVEYOR J. JAMES

NGR top TF 783 152

NGR bottom TF 779 148

Date + time 24.9.95 1pm

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Rel Cov		Rel Cov		Rel Cov		Rel Cov
ALGAE:		<i>Littorella uniflora</i>		<i>Elodes canadensis</i>			
Blue-Green Mats		<i>Mentha aquatica</i>	2	<i>Elodes austallii</i>			
<i>Baccharispermum</i> sp(s)		<i>Menyanthes trifoliata</i>		<i>Glyceria maxima</i>	2		
<i>Hildenbrandia rivularis</i>		<i>Montia fontana</i>		<i>Glyceria other sp(s)</i>			
<i>Lemnaea fluviciliis</i>		<i>Mosotis sp(s)</i>	3	<i>Groenlandia densa</i>			
<i>Vaucheria</i> sp(s)		<i>Mysotis aquaticum</i>		<i>Iris pseudacorus</i>			
<i>Enteromorphia</i> sp(s)		<i>Myriophyllum alterniflorum</i>		<i>Juncus acutiflorus</i>			
<i>Stigeclonium</i> sp(p)		<i>Myriophyllum spicatum</i>		<i>Juncus articulatus</i>			
<i>Cladophora</i> sp(p)		<i>Nasturtium officinale agg.</i>	5	<i>Juncus bulbosus</i>	2		
Other filamentous Greens	2	<i>Nuphar lutea</i>		<i>Juncus effusus</i>			
<i>Chara</i> sp(s)		<i>Nymphaea alba</i>		<i>Juncus inflexus</i>			
<i>Nitella</i> sp(s)		<i>Oenanthe crocata</i>		<i>Juncus solo</i>			
LIVERWORTS:		<i>Oenanthe fluviciliis</i>		<i>Lemna gibba (ribboous)</i>			
<i>Chiloscyphus polyanthus</i>		<i>Polygonum amphibium</i>		<i>Lemna minor agg</i>			
<i>Marsupella emarginata</i>		<i>Potentilla</i> sp		<i>Lemna trisulca</i>			
<i>Nardia comosa</i>		<i>0.1 KM</i>		<i>Phalaris arundinacea</i>			
<i>Peltia endiviifolia</i>		<i>Ranunculus calcareus</i>		<i>Phragmites australis</i>			
<i>Pellia epiphylla</i>		<i>Ranunculus circinatus</i>		<i>Potamogeton alpinus</i>			
<i>Scapania undulata</i>		<i>Ranunculus flammula</i>		<i>Potamogeton berchtoldii</i>			
<i>Solenostoma</i> sp(p)		<i>Ranunculus fluitans</i>		<i>Potamogeton crispus</i>			
Foliose Liverworts indet		<i>Ranunculus hederaceus</i>		<i>Potamogeton friesii</i>			
Thalloid Liverworts Indet		<i>Ranunculus omioides</i>		<i>Potamogeton gramineus</i>			
MOSSES:		<i>Ranunculus peltatus</i>		<i>Potamogeton lucens</i>			
<i>Amblystegium fluviatile</i>		<i>Ranunculus penicillatus</i>	4	<i>Potamogeton natans</i>			
<i>Amblystegium riparium</i>		<i>Ranunculus trichophyllum</i>		<i>Potamogeton pectinatus</i>	3	2	
<i>Cinclidium fontinaloides</i>		<i>Ranunculus sceleratus</i>		<i>Potamogeton perfoliatus</i>			
<i>Fontinalis antipyretica</i>		<i>Ranunculus indet</i>		<i>Potamogeton polygonifol</i>			
<i>Fontinalis squamosa</i>		<i>Roridula amplexica</i>		<i>Potamogeton grælonius</i>			
<i>Hydrohypnum luridum</i>		<i>Rumex hydrolapathum</i>		<i>Potamogeton pusillus</i>			
<i>Hydrohypnum ochraceum</i>		<i>Solanum dulcamara</i>	2	<i>Potamogeton indet</i>			
<i>Racomitrium aciculare</i>		<i>Veronica anagallis-aquatica</i>		<i>Potamogeton other sp(s)</i>			
<i>Rhynchosciadium riparioides</i>		<i>Veronica beccabunga</i>		<i>Sagittaria sagittifolia</i>			
<i>Sohagenia</i> sp(s)		<i>Veronica catenata</i>		<i>Scirpus fluviatilis</i>			
Mosses indet		MONOCOTYLEDONS:		<i>S. lacustris/taurinaemon</i>			
VASCULAR CRYPTOGAMS:		<i>Acorus calamus</i>		<i>Scirpus maritimus</i>			
<i>Azolla filiculoides</i>		<i>Agrostis stolonifera</i>		<i>Sparzanium angustifolium</i>			
<i>Equisetum fluviatile</i>		<i>Alisma lanceolatum</i>		<i>Sparzanium emersum</i>		2	
<i>Equisetum palustre</i>		<i>Alisma plantago-aquatica</i>		<i>Sparzanium erectum</i>			
DICOTYLEDONS:		<i>Aldrovendrus geniculatus</i>		<i>Spirodela polyrrhiza</i>			
<i>Adium inundatum</i>		<i>Buromus umbellatus</i>		<i>Typha latifolia</i>			
<i>Adium nodiflorum</i>	2	<i>Carex acuta</i>		<i>Zannichellia palustris</i>			
<i>Berula erecta</i>		<i>Carex acutiformis</i>		ADDITIONS:			
<i>Callitricha hamulata</i>		<i>Carex aquatilis</i>		<i>Anura Dinzis</i>			
<i>C. hermafroditica</i>		<i>Carex elata</i>		2. <i>Scrophularia rupestris</i>			
<i>Callitricha obtusangula</i>		<i>Carex paniculata</i>		3.			
<i>Callitricha olarvcaro</i>		<i>Carex riparia</i>		4.			
<i>Callitricha stagnalis</i>		<i>Carex rostrata</i>		5.			
<i>Callitricha</i> indet		<i>Carex vesicaria</i>		6.			
<i>Caltha palustris</i>		<i>Carex indet</i>		7.			
<i>Ceratophyllum demersum</i>		<i>Carex other sp(s)</i>		8.			
<i>Eelium hirsutum</i>		<i>Carex rostrata aquatica</i>		9.			
<i>Hippocratea vulgaris</i>		<i>Eleocharis</i> sp(s)		10.			

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 8 SURVEYOR J. JAMES
 NGR top TF 783 152 NGR bottom TF 779 149 Date - time 24.9.93 2pm

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	(A)	B	A	B	A	B	C

	Rel Cov		Rel Cov		Rel Cov
ALGAE:					
Blue-Green Mats		<i>Littorella uniflora</i>		<i>Elodes canadensis</i>	
<i>Baccharospermum</i> sp(s)		<i>Mentha aquatica</i>		<i>Elodes nuttallii</i>	
<i>Hildenbrandia rivularis</i>		<i>Menyanthes trifoliata</i>		<i>Glyceria maxime</i>	
<i>Lemanea fluviatilis</i>		<i>Montia fontana</i>		<i>Glyceria other sp(s)</i>	
<i>Veucheria soloi</i>		<i>Myosotis</i> sp(s)	2	<i>Groenlandia densa</i>	
<i>Enteromorpha</i> sp(s)		<i>Myosoton aquaticum</i>		<i>Iris pseudocorus</i>	
<i>Stizoclonium</i> sp(s)		<i>Myriophyllum alterniflorum</i>		<i>Juncus acutiflorus</i>	
<i>Cladophora</i> sp(p)		<i>Myriophyllum spicatum</i>		<i>Juncus articulatus</i>	
Other filamentous Greens		<i>Nasturtium officinale</i> agg.	5 3	<i>Juncus bulbosus</i>	
<i>Chara</i> sp(s)		<i>Nuphar lutea</i>		<i>Juncus effusus</i>	
<i>Nitella</i> sp(s)		<i>Nymphaea alba</i>		<i>Juncus inflexus</i>	
LIVERWORTS:					
<i>Chiloscyphus polyanthos</i>		<i>Oenanthe crocata</i>		<i>Lemna gibba (gibbous)</i>	
<i>Marsupella emarginata</i>		<i>Polygonum amphibium</i>		<i>Lemna minor</i> agg.	
<i>Nardia compressa</i>		<i>Potentilla palustris</i>		<i>Lemna trisulca</i>	
<i>Peltia endiviifolia</i>		<i>Ranunculus aquatilis</i>		<i>Phalaris arundinacea</i>	
<i>Pellia epiphylla</i>		<i>Ranunculus calcareus</i>		<i>Phragmites australis</i>	
<i>Scagelia undulata</i>		<i>Ranunculus circinatus</i>		<i>Potamogeton elatinus</i>	
<i>Solenostoma</i> sp(s)		<i>Ranunculus flammula</i>		<i>Potamogeton berchtoldii</i>	
Foliose Liverworts inde:		<i>Ranunculus fluitans</i>		<i>Potamogeton crispus</i>	
Thalloid Liverworts Inde:		<i>Ranunculus hederaceus</i>		<i>Potamogeton friesii</i>	
MOSSES:					
<i>Amblystegium fluviatile</i>		<i>Ranunculus omiophyllus</i>		<i>Potamogeton gramineus</i>	
<i>Amblystegium riparium</i>		<i>Ranunculus peltatus</i>		<i>Potamogeton lucens</i>	
<i>Cinclidotus fontinaloides</i>		<i>Ranunculus penicillatus</i>	5 2	<i>Potamogeton natans</i>	
<i>Fontinalis antipyretica</i>		<i>Ranunculus trichophyllum</i>		<i>Potamogeton pectinatus</i>	12 2
<i>Fontinalis sauermosa</i>		<i>Ranunculus sceleratus</i>		<i>Potamogeton perfoliatus</i>	
<i>Hydrolynum luridum</i>		<i>Ranunculus inde:</i>		<i>Potamogeton aolvzonifol</i>	
<i>Hydrolynum ochraceum</i>		<i>Ranunculus amphibia</i>		<i>Potamogeton praetorius</i>	
<i>Racomitrium aciculare</i>		<i>Rumex hydrolapathum</i>		<i>Potamogeton pusillus</i>	
<i>Rhynchosciadium riparioides</i>		<i>Solanum dulcamara</i>		<i>Potamogeton inde:</i>	
<i>Scorzoneroides</i> sp(p)		<i>Veronica anagallis-aquatica</i>		<i>Potamogeton other sp(p)</i>	
Mosses inde:		<i>Veronica beccabunga</i>		<i>Sagittaria sagittifolia</i>	
MONOCOTYLEDONS:		<i>Veronica catenata</i>		<i>Scirpus fluviensis</i>	
VASCULAR CRYPTOGAMS:					
<i>Acorus calamus</i>				<i>S. lacustris/taberneaeon</i>	
<i>Azolla filiculoides</i>		<i>Agrostis stolonifera</i>		<i>Scirpus maritimus</i>	
<i>Equisetum fluviatile</i>		<i>Alisma lanceolatum</i>		<i>Schoenoplectus angustifolium</i>	
<i>Equisetum palustre</i>		<i>Alisma plantago-aquatica</i>		<i>Schoenoplectus emersum</i>	
DICOTYLEDONS:					
<i>Adium inundatum</i>		<i>Alopecurus geniculatus</i>		<i>Spiradela polyrrhiza</i>	
<i>Adium nodiflorum</i>	2 1	<i>Bucomus umbellatus</i>		<i>Typha latifolia</i>	
<i>Berula erecta</i>		<i>Carex acuta</i>		<i>Zannichellia palustris</i>	
<i>Callitricha hemimata</i>		<i>Carex acutiformis</i>		ADDITIONS:	
<i>C. hermaphrodita</i>		<i>Carex aquatilis</i>		1. <i>Anemone pinguifolia</i>	12 2
<i>Callitricha obtrusanzula</i>		<i>Carex elata</i>		2. <i>Comptonia curvata</i>	
<i>Callitricha platycarpos</i>		<i>Carex paniculata</i>		3. <i>Thymus moschatus</i>	
<i>Callitricha stegnalis</i>		<i>Carex rostrata</i>		4. <i>Ranunculus repens</i>	
<i>Callitricha inde:</i>	2 1	<i>Carex vesicaria</i>		5.	
<i>Caltha palustris</i>		<i>Carex inde:</i>		6.	
<i>Ceratophyllum demersum</i>		<i>Carex other sp(s)</i>		7.	
<i>Egloobium hirsutum</i>		<i>Carex aquatica</i>		8.	
<i>Hippocratea vulgaris</i>		<i>Eleocharis sp(p)</i>		9.	
				10.	

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 9 SURVEYOR J. JAMES
 NGR top TF 816 145 NGR bottom TF 812 147 Date + time 22.9.93 11am

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	(A)	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Eloides canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>	1	3	<i>Eloides nuttallii</i>		
<i>Baccharispermum</i> sp(s)			<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other</i> sp(s)		
<i>Lemanea fluvicallis</i>			<i>Myosotis</i> sp(s)	2	4	<i>Groenlandia densa</i>		
<i>Vaucheria</i> sp(s)			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha</i> sp(s)			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeonion</i> sp(s)			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora</i> sp(s)			<i>Nasturtium officinale</i> agg.	1	3	<i>Juncus bulbosus</i>		
Other filamentous Greens	1	1	<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara</i> sp(s)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(s)		1	<i>Oenanthe crocata</i>			<i>Juncus</i> sp(s)		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba</i> (gibbous)		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia comosa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	5	15
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphyllia</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton clatinus</i>		
<i>Scoenicia undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sp(p)			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>	4		<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		13
<i>Cinclidotus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus</i> indet			<i>Potamogeton polygonifol</i>		
<i>Fontinalis sauamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton graelonzus</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solieriella dulcamara</i>	2	3	<i>Potamogeton</i> indet		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton</i> other sp(s)		
<i>Rhynchosciadium riparioides</i>			<i>Veronica beccabunga</i>	2	3	<i>Sazieria sazierifolia</i>		
<i>Sohagnum</i> sp(s)			<i>Veronica caucasica</i>			<i>Scirpus</i> fluitans		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris</i> / <i>abernaemon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>	1	3	<i>Soeranum angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Soeranum emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Soeranum erectum</i>		
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Soirodetia polvrrhiza</i>		
<i>Aodium inundatum</i>			<i>Butomus umbellatus</i>			<i>Typha latifolia</i>		
<i>Aodium nodiflorum</i>	13	15	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hemulaea</i>			<i>Carex aquatilis</i>			<i>Scrophularia</i> avicularia	1	
<i>C. hermaphroditica</i>			<i>Carex elata</i>			2.		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			3.		
<i>Callitricha olarværgae</i>			<i>Carex rigida</i>			4.		
<i>Callitricha siccigera</i>			<i>Carex rostrata</i>			5.		
<i>Callitricha</i> indet	2	4	<i>Carex vesicaria</i>			6.		
<i>Carex palustris</i>			<i>Carex</i> indet			7.		
<i>Ceratophyllum demersum</i>			<i>Carex</i> other sp(s)			8.		
<i>Eelioium hirsutum</i>	2	4	<i>Carex</i> aquatica			9.		
<i>Hippurus vulgaris</i>	12	3	<i>Eleocharis</i> sp(s)			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 9 SURVEYOR J. James
 NGR top TF 816 145 NGR bottom TF 812 147 Date - time 22.9.93 12pm

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodes canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>	1	2	<i>Elodes nuttallii</i>		
<i>Baccharispermum</i> sp(s)			<i>Menyanthes trifoliata</i>			<i>Glyceria maxima</i>	1	3
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other</i> sp(s)		4
<i>Lemnaea fluvialis</i>			<i>Myosotis sylvatica</i>	2	4	<i>Groenlandia dense</i>		2
<i>Vaucheria</i> sp(s)			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha</i> sp(s)			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Sizigonium</i> sp(s)			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora</i> sp(s)			<i>Nasturtium officinale</i> agg.		7	<i>Juncus bulbosus</i>		
Other filamentous Greens			<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara</i> sp(s)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(s)			<i>Oenanthe crocata</i>			<i>Juncus solo</i>		
LIVERWORTS:			<i>Oenanthe fluvialis</i>			<i>Lemna gibba</i> (gibbous)		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg.		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	3	5
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Poecilopelteton alpinus</i>		
<i>Scegania undulata</i>			<i>Ranunculus flammula</i>			<i>Poecilopelteton berchtoldii</i>		
<i>Solenostoma</i> sp(p)			<i>Ranunculus fluitans</i>			<i>Poecilopelteton crisus</i>		
Foliose Liverworts inde			<i>Ranunculus hederaceus</i>			<i>Poecilopelteton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Poecilopelteton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Poecilopelteton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>	2	4	<i>Poecilopelteton natars</i>		
<i>Amblystegium riarium</i>			<i>Ranunculus trichophyllum</i>			<i>Poecilopelteton decinatus</i>		
<i>Cinclidolus fonticloides</i>			<i>Ranunculus sceleratus</i>			<i>Poecilopelteton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus inde</i>			<i>Poecilopelteton polygonifol</i>		
<i>Fontinalis squamosa</i>			<i>Rorippa amphibia</i>			<i>Poecilopelteton praetorius</i>		
<i>Hydrophynum liridum</i>			<i>Rumex hydrolcoanthum</i>			<i>Poecilopelteton pusillus</i>		
<i>Hydrophynum ochraceum</i>			<i>Solanum dulcamara</i>	1	2	<i>Poecilopelteton inde</i>		
<i>Recomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Poecilopelteton other</i> sp(s)		
<i>Rhynchosciadium riparioides</i>			<i>Veronica beccabunga</i>		3	<i>Saxifaria sagittifolia</i>		
<i>Sphaeznum</i> sp(s)			<i>Veronica catenata</i>			<i>Scirpus fluviaris</i>		
Mosses inde:			MONOCOTYLEDONS:			<i>S. lacustris/taberndaeon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Azrostis stolonifera</i>	1	4	<i>Sporzanium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Sporzanium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Sporzanium erectum</i>	2	4
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Soirodela polyrrhiza</i>		
<i>Apium inundatum</i>			<i>Buromus umbellatus</i>			<i>Typha latifolia</i>		
<i>Apium nodiflorum</i>	-2	3	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>		1	TADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			<i>Scrophularia auriculata</i>		
<i>C. hermannraddei</i>			<i>Carex elata</i>			<i>Parthenocissus repens</i>		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			<i>Angelesia subulata</i>		
<i>Callitricha ovalvaginea</i>			<i>Carex rostrata</i>		1	<i>(Carex hirta)</i>		
<i>Callitricha straminea</i>			<i>Carex vesicaria</i>			<i>Impatiens glandulifera</i>		
<i>Callitricha inde</i>	2	4				6.		
<i>Celtis palustris</i>			<i>Carex inde</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other</i> sp(s)			8.		
<i>Eglobiun hirsutum</i>		3	<i>Catabrosa aquatica</i>			9.		
<i>Hippurus vulgaris</i>	5	5	<i>Eleocharis</i> sp(s)			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 9 SURVEYOR J. JAMES
 NGR top TF 816 145 NGR bottom TF 812 147 Date - time 22.9.93 1 pm

Site Length	0.5 km (500 m.)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Rel Cov		Rel Cov		Rel Cov		Rel Cov
ALGAE:							
Blue-Green Mats			<i>Littorella uniflora</i>		<i>Eiodes canadensis</i>		
<i>Baccharospermum</i> sp(s)			<i>Mentha aquatica</i>	1 2	<i>Eiodes nuttallii</i>		
<i>Hildenbrandia rivularis</i>			<i>Menyanthes trifoliata</i>		<i>Glyceria maxima</i>	1 2	4
<i>Lemanea fluvialis</i>			<i>Montia fontana</i>		<i>Glyceria other</i> sp(s)	1 1	3
<i>Vaucheria</i> sp(s)			<i>Myosotis</i> sp(s)	12 1 4	<i>Groenlandia dense</i>		
<i>Enteromorpha</i> sp(g)			<i>Myriophyllum aquaticum</i>		<i>Iris pseudacorus</i>		
<i>Suzekonium</i> sp(s)			<i>Myriophyllum heterophyllum</i>		<i>Juncus acutiflorus</i>		
<i>Cladophora</i> sp(s)			<i>Nasturtium officinale</i> agg.	1 1	<i>Juncus articulatus</i>		
Other filamentous Greens	1	1	<i>Nuphar lutea</i>		<i>Juncus bulbosus</i>		
<i>Chara</i> sp(s)			<i>Nymphaea alba</i>		<i>Juncus effusus</i>		
<i>Nitella</i> sp(s)	1		<i>Oenanthe crocata</i>		<i>Juncus inflexus</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>		<i>Juncus solo</i>		
<i>Chiloscyphus polyanthos</i>			<i>Polygonum amphibium</i>		<i>Lemna gibba (gibbous)</i>		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>		<i>Lemna minor</i> agg.	1	1
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>		<i>Phalaris arundinacea</i>		
<i>Pelta endiviifolia</i>			<i>Ranunculus calcareus</i>		<i>Praemates australis</i>	5	4
<i>Peltia epiphylla</i>			<i>Ranunculus circinatus</i>		<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>		<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sp(s)			<i>Ranunculus fluitans</i>		<i>Potamogeton crispus</i>		
Foliose Liverworts inde:			<i>Ranunculus hederaceus</i>		<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>		<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>		<i>Potamogeton lucens</i>		
<i>Amblystezium fluviatile</i>			<i>Ranunculus penicillatus</i>	1 2	<i>Potamogeton natans</i>		
<i>Amblystezium riparium</i>			<i>Ranunculus trichophyllus</i>		<i>Potamogeton octofoilatus</i>	1	2
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>		<i>Potamogeton perfoliatus</i>	1	1
<i>Fontinalis antipyretica</i>			<i>Ranunculus inder</i>		<i>Potamogeton polygonifol</i>		
<i>Fontinalis sauamosa</i>			<i>Rorippa amphibia</i>		<i>Potamogeton praetorius</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>		<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>	1 1	<i>Potamogeton inder</i>		
<i>Recomirrium aciculare</i>			<i>Veronica anagallis-aquatica</i>		<i>Potamogeton other</i> sp(s)		
<i>Rhynchoszgium riparioides</i>			<i>Veronica beccabunga</i>	1 2	<i>Scirparia scirpifolia</i>		
<i>Sohagnum</i> sp(s)			<i>Veronica catenata</i>		<i>Scirpus fluviatus</i>		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/ceratnaemon</i>	
VASCULAR CRYPTOGAMS:			<i>Acaris calamus</i>		<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Azrostis stolonifera</i>	1 3	<i>Sorbarium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>		<i>Sorbarium emersum</i>		
<i>Equisetum palustre</i>	1	1	<i>Alisma plantago-aquatica</i>		<i>Sorbarium erectum</i>	1 2	4
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>		<i>Sorodela polyrrhiza</i>		
<i>Aodium inundatum</i>			<i>Bu托omus umbellatus</i>		<i>Typha latifolia</i>		
<i>Aodium nodiflorum</i>	2	4	<i>Carex acuta</i>		<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>	1 1	ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>		1. <i>Scrophularia auriculata</i>		
<i>C. hermaphroditica</i>			<i>Carex etata</i>		2. <i>Ranunculus repens</i>	1	2
<i>Callitricha ciliata</i>			<i>Carex paniculata</i>		3. <i>Angelica sylvestris</i>	1	1
<i>Callitricha oliverae</i>			<i>Carex riparia</i>	1 1	4. <i>Carex hirta</i>	1	1
<i>Callitricha sicula</i>			<i>Carex rostrata</i>		5. <i>Polygonum hybridum</i>	1	1
<i>Callitricha</i> indet	2	5	<i>Carex vesicaria</i>		6. <i>Impatiens glandulifera</i>		
<i>Celitha palustris</i>			<i>Carex</i> indet		7.		
<i>Ceratophyllum demersum</i>			<i>Carex other</i> sp(s)		8.		
<i>Ectoedemiun hirsutum</i>	2	4	<i>Catappa aquatica</i>		9.		
<i>Hippuris vulgaris</i>	3	5	<i>Eleocharis</i> sp(s)		10.		

MACROPHYTES IN WATERCOURSES—FIELD CHECK-LIST

RIVER NAR

SITE 10

SURVEYOR J. JAMES

NGR top TF 827 154

NGR bottom TF 824 150

Date + time 20.9.93 3pm

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodes canadensis</i>		
Blue-Green Mats			<i>Meniaea aquatica</i>			<i>Elodes nuttallii</i>		
<i>Batrachospermum sol(0)</i>			<i>Mentha aquatica</i>			<i>Glyceria maxima</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sol(0)</i>		
<i>Lemanea fluviciliis</i>			<i>Myosotis sol(0)</i>		1	<i>Groenlandia dense</i>		
<i>Vaucheria sol(0)</i>			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha sol(0)</i>			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stizoclonium sol(0)</i>			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora sp(p)</i>			<i>Nasturtium officinale agg.</i>			<i>Juncus bulbosus</i>		
Other filamentous Greens	2	3	<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara sol(0)</i>			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella sol(0)</i>			<i>Oenanthe crocata</i>			<i>Juncus sol(0)</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibbous)</i>		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg.</i>		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphytica</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton elatinus</i>		
<i>Scoenocle undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma sol(0)</i>			<i>Ranunculus fluitans</i>		1	<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet:			<i>Ranunculus omiophyllum</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amölystezium fluviatile</i>			<i>Ranunculus penicillatus</i>		2	<i>Potamogeton natans</i>		
<i>Amölystezium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidium fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus indet</i>			<i>Potamogeton polyphyllus</i>		
<i>Fontinalis scuamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praelongus</i>		
<i>Hydrocharon luridum</i>			<i>Rumex hydrolaetum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrocharon ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton indet</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sol(0)</i>		
<i>Rhynchosciadium riparioides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sohaznum sol(0)</i>			<i>Veronica catenata</i>			<i>Scirpus fluvians</i>		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/tuberculosa</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Azrostis stolonifera</i>			<i>Sporangium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Sporangium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Sporangium erectum</i>		
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Adium inundatum</i>			<i>Buomus umbellatus</i>			<i>Typha latifolia</i>		
<i>Adium nodiflorum</i>	5	4	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			1. <i>Petasites hybridus</i>	1	3
<i>C. hermafroditica</i>			<i>Carex elata</i>			2. <i>Scrophularia auriculata</i>	1	
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			3.		
<i>Callitricha olivacea</i>			<i>Carex rostrata</i>			4.		
<i>Callitricha stagnalis</i>			<i>Carex vesicaria</i>			5.		
<i>Callitricha indet</i>			<i>Carex indec.</i>			6.		
<i>Caltha palustris</i>						7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sol(0)</i>			8.		
<i>Epilobium hirsutum</i>	3	4	<i>Calobrosoa aquatica</i>			9.		
<i>Hippuris vulgaris</i>			<i>Eleocharis sol(0)</i>			10.		

MACROPHYTES IN WATERCOURSES—FIELD CHECK-LIST

RIVER NAR

SITE 10

SURVEYOR J. JAMES

NGR top TF 827 154

NGR bottom TF 824 150

Date + time 20.9.93 4 pm

Site Length	0.5 km. (500 m.)			0.1 km. (100 m.)			0.01 km. (10 m.)		
Cover scale	A	B	(A)	B	A	S	C		

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodes canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>			<i>Elodes nuttallii</i>		
<i>Baccharospermum soloi</i>			<i>Menyanthes trifoliata</i>			<i>Glyceria maxima</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other soloi</i>		
<i>Lemanea fluviatilis</i>			<i>Myosotis soloi</i>	2	3	<i>Groenlandia densa</i>		
<i>Vaucheria soloi</i>			<i>Myosoton aquaticum</i>			<i>Iris pseudocorus</i>		
<i>Enteromorphia soloi</i>			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stizoclonium soloi</i>			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cleidothora soloi</i>			<i>Nasturtium officinale agg.</i>			<i>Juncus bulbosus</i>		
Other filamentous Greens	1	3	<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara soloi</i>			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella soloi</i>	1		<i>Oenanthe crocata</i>			<i>Juncus soloi</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibbous)</i>		
<i>Chiloscyphus obovianthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg.</i>	1	2
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	2	2
<i>Peltia endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Peltia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton crispinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma soloi</i>			<i>Ranunculus fluitans</i>	2		<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllum</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amölystezium fluviatile</i>			<i>Ranunculus penicillatus</i>	2	2	<i>Potamogeton nctans</i>		
<i>Amölystezium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>	5	5
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus indet</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis squamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton grælonius</i>		
<i>Hydrophynum luridum</i>			<i>Rumex hydrophila</i>			<i>Potamogeton pusillus</i>		
<i>Hydrophynum ochraceum</i>			<i>Solanum dulcamara</i>	2	3	<i>Potamogeton indet</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other soloi</i>		
<i>Rhynchosciadium rigarioides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sphaerum soloi</i>			<i>Veronica catenata</i>			<i>Scirpus fluviatus</i>		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/cōernaeon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Aerostis stolonifera</i>			<i>Sorbarium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Sorbarium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Sorbarium erectum</i>	5	5
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Sparganium polystachya</i>		
<i>Apium inundatum</i>			<i>Buromus umbellatus</i>			<i>Typha latifolia</i>		
<i>Apium nodiflorum</i>	13	3	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			1. <i>Petasites hybridus</i>		
<i>C. hermaphroditica</i>			<i>Carex elata</i>			2. <i>Scirpoides curvula</i>		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			3.		
<i>Callitricha glaucocarpa</i>			<i>Carex rigida</i>			4.		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitricha indet</i>			<i>Carex vesicaria</i>			6.		
<i>Celitha palustris</i>			<i>Carex indet</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other soloi</i>			8.		
<i>Elodea hirsutum</i>	4	4	<i>Carex aquatica</i>			9.		
<i>Hiocurus vulgaris</i>			<i>Eleocharis soloi</i>			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR

SITE 10

SURVEYOR J. JAMES

NGR top TF 827 154

NCR bottom TF 824 150

Date - time 20.9.93 5pm

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>				<i>Elodes canadensis</i>	
Blue-Green Mats			<i>Menia aquatica</i>	2	3		<i>Elodes rusticellii</i>	
<i>Baccharospermum</i> sp(s)			<i>Menyanthes trifolia</i>				<i>Glyceria maxima</i>	
<i>Hildenbrandia rivularis</i>			<i>Mortic fontana</i>				<i>Glyceria other sp(s)</i>	3 3
<i>Lemanea fluvialis</i>			<i>Mosotis</i> sp(s)	2	2		<i>Groenlandia densa</i>	
<i>Veucheria</i> sp(s)			<i>Mosoton aquaticum</i>	1	1		<i>Iris pseudacorus</i>	
<i>Enteromorphia</i> sp(s)			<i>Mviriohyllum alterniflorum</i>				<i>Juncus acutiflorus</i>	
<i>Stigeclonium</i> sp(s)			<i>Mviriohyllum spicatum</i>				<i>Juncus articulatus</i>	
<i>Cladophora</i> sp(s)			<i>Nasturtium officinale</i> agg.	1	1		<i>Juncus bulbosus</i>	
Other filamentous Greens	3	4	<i>Nuphar lutea</i>				<i>Juncus effusus</i>	
<i>Chara</i> sp(s)			<i>Nymphaea alba</i>				<i>Juncus inflexus</i>	
<i>Nitella</i> sp(s)			<i>Oenanthe crocata</i>				<i>Juncus</i> sp(s)	
LIVERWORTS:			<i>Oenanthe fluvialis</i>	1	1		<i>Lemna zibbæ (zibbous)</i>	
<i>Chiloscyphus polyanthus</i>			<i>Polyeconum amphibium</i>				<i>Lemna minor</i> agg	
<i>Marsuella emarginata</i>			<i>Potentilla palustris</i>				<i>Lemna trisulca</i>	
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>				<i>Phalaris arundinacea</i>	3 3
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>				<i>Phragmites australis</i>	
<i>Peltigera epiphylla</i>			<i>Ranunculus circinatus</i>				<i>Potamogeton alpinus</i>	
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>				<i>Potamogeton berchtoldii</i>	
<i>Solenostoma</i> sp(s)			<i>Ranunculus fluitans</i>				<i>Potamogeton crispus</i>	
Foliose Liverworts index			<i>Ranunculus hederaceus</i>				<i>Potamogeton friesii</i>	
Thalloid Liverworts Index			<i>Ranunculus omiophyllum</i>				<i>Potamogeton gramineus</i>	
MOSSES:			<i>Ranunculus peltatus</i>				<i>Potamogeton lucens</i>	
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>	1	1		<i>Potamogeton natans</i>	
<i>Amblystegium riocarium</i>			<i>Ranunculus trichophyllum</i>				<i>Potamogeton pectinatus</i>	3 4
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>				<i>Potamogeton perfoliatus</i>	
<i>Fonniclisis antipyretica</i>			<i>Ranunculus inder</i>				<i>Potamogeton polygonifol</i>	
<i>Fonniclisis squamosa</i>			<i>Rorippa amphibia</i>				<i>Potamogeton praetorius</i>	
<i>Hydrophyton luridum</i>			<i>Rumex hydroleptathum</i>	1	1		<i>Potamogeton pusillus</i>	
<i>Hydrohypnum ochraceum</i>			<i>Solenum dulcamara</i>	1	2		<i>Potamogeton inde</i>	
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>	1	2		<i>Potamogeton other</i> sp(s)	
<i>Rhynchosciadium ricarioides</i>			<i>Veronica beccabunga</i>	1	2		<i>Sazieria sazifolia</i>	
<i>Sohaznum</i> sp(s)			<i>Veronica calenata</i>	1	1		<i>Scirpus fluviatus</i>	
Mosses inde:			MONOCOTYLEDONS:				<i>S. lacustris/cabernaeon</i>	
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>				<i>Scirpus maritimus</i>	
<i>Azolla filiculoides</i>			<i>Azrostis stolonifera</i>	2	4		<i>Scolearium angustifolium</i>	
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>				<i>Scolearium emersum</i>	
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>				<i>Sorbarium erectum</i>	2 3
DICOTYLEDONS:			<i>Aldoecurus geniculatus</i>				<i>Spirodela polyrrhiza</i>	
<i>Apium inundatum</i>			<i>Buromus umbellatus</i>				<i>Typha latifolia</i>	
<i>Apium nodiflorum</i>	5	5	<i>Carex acuta</i>				<i>Zannichellia palustris</i>	
<i>Berula erecta</i>			<i>Carex acutiformis</i>				ADDITIONS:	
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>				<i>Petasites hybridus</i>	
<i>C. hermaphroditica</i>			<i>Carex elata</i>				<i>Scrophularia auriculata</i>	
<i>Callitricha oblongula</i>			<i>Carex paniculata</i>				<i>Carex hirta</i>	
<i>Callitricha ovalicarpa</i>			<i>Carex riparia</i>				<i>Tigridia palustris</i>	
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>				<i>Carex vesicaria</i>	
<i>Callitricha inder</i>			<i>Carex vesicaria</i>				<i>Carex inde</i>	
<i>Caltha palustris</i>			<i>Carex inde</i>				<i>Carex acutiformis</i>	
<i>Ceratophyllum demersum</i>			<i>Carex other</i> sp(s)				<i>Carex other</i> sp(s)	
<i>Epilobium hirsutum</i>	2	3	<i>Calobrosa aquatica</i>				<i>Carex other</i> sp(s)	
<i>Hippuris vulgaris</i>	2	3	<i>Eleocharis</i> sp(s)				<i>Carex other</i> sp(s)	

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE II SURVEYOR J. JAMES
 NGR top TF 842 170 NGR bottom TF 838 170 Date + time 21.9.93 9 am

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	(A)	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>	4	3	<i>Elodea nuttallii</i>		
<i>Baccharispermum</i> sp(p)			<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(p)</i>	2	2
<i>Lemanea fluviatilis</i>			<i>Myosotis</i> sp(p)	3	3	<i>Groenlandia densa</i>		
<i>Vaucheria</i> sp(p)			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorphia</i> sp(p)	1	1	<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeonion</i> sp(p)			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora</i> sp(p)			<i>Nasturtium officinale</i> agg.	2	1	<i>Juncus bulbosus</i>		
Other filamentous Greens	1	1	<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara</i> sp(p)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(p)			<i>Oenanthe crocata</i>			<i>Juncus</i> sp(p)		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibbous)</i>		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg	1	1
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	2	2
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Peltia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sp(p)			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidotus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus</i> indet	1		<i>Potamogeton polygonifol</i>		
<i>Fontinalis sauvamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton paelongus</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton</i> indet		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton</i> sp(p)		
<i>Rhynchostezium ripariooides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sohcenum</i> sp(p)			<i>Veronica catenata</i>			<i>Scirpus</i> fluitans		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/labernaemon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Aerostis stolonifera</i>	2	2	<i>Soerganium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Soerganium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Soerganium erectum</i>		
DICOTYLEDONS:			<i>Alodecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Adium inundatum</i>			<i>Bu托omus umbellatus</i>			<i>Typha latifolia</i>		
<i>Adium nodiflorum</i>	5	4	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			1. <i>Conocephalum conicum</i>		
<i>C. hermaphroditica</i>			<i>Carex elata</i>			2. <i>Comarum palustre</i>	2	2
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			3. <i>Impatiens glandulifera</i>		
<i>Callitricha olavarcarpa</i>			<i>Carex riparia</i>			4.		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitricha</i> indet			<i>Carex vesicaria</i>			6.		
<i>Caltha palustris</i>			<i>Carex</i> indet			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other</i> sp(p)			8.		
<i>Eriogonum hirsutum</i>			<i>Calabrosa aquatica</i>			9.		
<i>Hippocratea vulcanis</i>			<i>Eleocharis</i> sp(p)			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NARSITE IISURVEYOR J. JAMESNGR top TF 842 170NGR bottom TF 838 170Date + time 21.9.93 10 am

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	(A)	B	A	B	C		

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>	3	3	<i>Elodea nuttallii</i>		
<i>Baccharispermum</i> sp(p)			<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(s)</i>	15	14
<i>Lemanea fluviatilis</i>			<i>Myosotis</i> sp(p)	2	2	<i>Groenlandia densa</i>		
<i>Vaucheria</i> sp(s)			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha</i> sp(p)			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Suzektonium</i> sp(p)			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora</i> sp(p)			<i>Nasturtium officinale</i> agg.			<i>Juncus bulbosus</i>		
Other filamentous Greens	2	2	<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara</i> sp(p)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(p)			<i>Oenanthe crocata</i>			<i>Juncus solo</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba</i> (gibbous)		
<i>Chiloscyphus polyanthos</i>			<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sp(p)			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophylus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidium fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus indet</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis sauamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praelongus</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton indet</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sp(p)</i>		
<i>Rhynchosciadium riotrioides</i>			<i>Veronica beccabunga</i>	2	1	<i>Sagittaria sagittifolia</i>		
<i>Sphagnum</i> sp(s)			<i>Veronica carenata</i>			<i>Scirpus fluitans</i>		
Mosses indet						<i>S. lacustris/taberนาemon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Aerostis stolonifera</i>	2	2	<i>Sparganium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Sparganium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Sparganium erectum</i>		
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Apium inundatum</i>			<i>Buomus umbellatus</i>			<i>Typha latifolia</i>		
<i>Apium nodiflorum</i>	4	4	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>					
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			ADDITIONS:		
<i>C. hermaphroditica</i>			<i>Carex elata</i>			1. <i>Coccocephalum conicum</i>		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			2. <i>Ranunculus repens</i>	2	3
<i>Callitricha platycarpa</i>			<i>Carex ribaria</i>			3. <i>Scrophularia auriculata</i>		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>			4.		
<i>Callitricha</i> indet			<i>Carex vesicaria</i>			5.		
<i>Caltha palustris</i>			<i>Carex</i> indet			6.		
<i>Ceratophyllum demersum</i>			<i>Carex other sp(s)</i>			7.		
<i>Epilobium hirsutum</i>			<i>Calabrosa aquatica</i>			8.		
<i>Hippuris vulgaris</i>			<i>Eleocharis</i> sp(p)			9.		
						10.		

MACROPHYTES IN WATERCOURSES—FIELD CHECK-LIST

RIVER NAR SITE II SURVEYOR J. JAMES
 NGR top TF 842 170 NGR bottom TF 838 170 Date - time 21.9.93 11am

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>	2	2	<i>Elodea nuttallii</i>		
<i>Baccharispermum</i> sp(s)			<i>Menyanthes trifoliata</i>			<i>Glyceria maxima</i>	4	4
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(s)</i>	3	3
<i>Lemnaea fluvialis</i>			<i>Myosotis sp(s)</i>	2	2	<i>Groenlandia densa</i>		
<i>Veucheria</i> sp(s)			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorphia</i> sp(p)			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeonion</i> sp(p)			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora</i> sp(p)			<i>Nasturtium officinale agg.</i>			<i>Juncus bulbosus</i>		
Other filamentous Greens	2	3	<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara</i> sp(p)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(s)			<i>Oenanthe crocata</i>			<i>Juncus</i> sp(s)		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba</i> (gibbous)		
<i>Chiloscyphus polyanthos</i>			<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	3	3
<i>Peltia endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scagelia undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sp(s)			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidotus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus indet</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis squamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton paelongatus</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton indet</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sp(s)</i>		
<i>Rhynchostegium riparioides</i>			<i>Veronica beccabunga</i>	9	1	<i>Sagittaria sagittifolia</i>		
<i>Sphaernum</i> sp(p)			<i>Veronica catenata</i>			<i>Scirpus fluitans</i>		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/lobernaemon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Aegrostis stolonifera</i>	2	1	<i>Soarzaniun angustijolim</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Sparganium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Sparganium erectum</i>	3	3
DICOTYLEDONS:			<i>Alloecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Apium inundatum</i>			<i>Bu托omus umbellatus</i>			<i>Typha latifolia</i>		
<i>Apium nodiflorum</i>	5	4	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			1. <i>Ranunculus repens</i>	3	3
<i>C. hermaphroditica</i>			<i>Carex elata</i>			2. <i>Semphularia auriculata</i>		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			3. <i>Ptilopendula ulmaria</i>		
<i>Callitricha oliverae</i>			<i>Carex riparia</i>			4. <i>Lithrum salicaria</i>		
<i>Callitricha staednalis</i>			<i>Carex rostrata</i>			5. <i>Polygonum tintort</i>		
<i>Callitricha indet</i>			<i>Carex vesicaria</i>			6. <i>Corynephelium canescens</i>		
<i>Caltha palustris</i>			<i>Carex inde!</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sp(p)</i>			8.		
<i>Eolobium hirsutum</i>			<i>Carabrosa aquatica</i>			9.		
<i>Hippocratea vulgaris</i>			<i>Eleocharis</i> sp(s)			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR

SITE 12

SURVEYOR J. JAMES

NGR top TF 859 169

NGR bottom TF 855 168

Date + time 21.9.93 11.30 am

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)			
Cover scale	A	B	A	B	A	B	C	

	Rel Cov		Rel Cov		Rel Cov
ALGAE.		<i>Littorella uniflora</i>		<i>Elodes canadensis</i>	
Blue-Green Mats		<i>Mentha aquatica</i>		<i>Elodes nuttallii</i>	
<i>Betrachospermum sp(p)</i>		<i>Menyanthes trifoliata</i>		<i>Glyceria maxima</i>	
<i>Hildenbrandia rivularis</i>		<i>Montia fontana</i>		<i>Glyceria other sp(p)</i>	
<i>Lemanea fluviatilis</i>		<i>Mosotris sp(g)</i>	2	<i>Groenlandia densa</i>	
<i>Vaucheria sp(p)</i>		<i>Mosotrichum aquaticum</i>		<i>Iris pseudacorus</i>	
<i>Enteromorpha sp(p)</i>		<i>Myriophyllum alterniflorum</i>		<i>Juncus acutiflorus</i>	
<i>Stizoclonium sp(p)</i>		<i>Myriophyllum spicatum</i>		<i>Juncus articulatus</i>	
<i>Cladophora sp(p)</i>		<i>Nasturtium officinale agg.</i>		<i>Juncus bulbosus</i>	
Other filamentous Greens	2	<i>Nuphar lutea</i>		<i>Juncus effusus</i>	
<i>Chara sp(p)</i>		<i>Nymphaea alba</i>		<i>Juncus inflexus</i>	
<i>Nitella sp(p)</i>		<i>Oenanthe crocata</i>		<i>Juncus sp(p)</i>	
LIVERWORTS:		<i>Oenanthe fluviatilis</i>		<i>Lemna gibba (gibbous)</i>	
<i>Chiloscyphus polyanthus</i>		<i>Polygonum amphibium</i>		<i>Lemna minor agg</i>	
<i>Marsupella emarginata</i>		<i>Potentilla palustris</i>		<i>Lemna trisulca</i>	
<i>Nardia compressa</i>		<i>Ranunculus aquatilis</i>		<i>Phalaris arundinacea</i>	
<i>Pella endiviifolia</i>		<i>Ranunculus calcareus</i>		<i>Phragmites australis</i>	
<i>Pellia epiphylla</i>		<i>Ranunculus circinatus</i>		<i>Potamogeton alpinus</i>	
<i>Scapania undulata</i>		<i>Ranunculus flammula</i>		<i>Potamogeton berchtoldii</i>	
<i>Solenostoma sp(p)</i>		<i>Ranunculus fluitans</i>		<i>Potamogeton crispus</i>	
Foliose Liverworts indec		<i>Ranunculus hederaceus</i>		<i>Potamogeton friesii</i>	
Thalloid Liverworts Indec		<i>Ranunculus omiophyllum</i>		<i>Potamogeton gramineus</i>	
MOSSES:		<i>Ranunculus peltatus</i>		<i>Potamogeton lucens</i>	
<i>Amblystegium fluviatile</i>		<i>Ranunculus penicillatus</i>		<i>Potamogeton natans</i>	
<i>Amblystegium riparium</i>		<i>Ranunculus trichophyllum</i>		<i>Potamogeton pectinatus</i>	
<i>Cinclidorus fontinaloides</i>		<i>Ranunculus sceleratus</i>		<i>Potamogeton perfoliatus</i>	
<i>Fontinalis antipyretica</i>		<i>Ranunculus indec</i>	1	<i>Potamogeton polygonifol</i>	
<i>Fontinalis scutmosa</i>		<i>Rorippa amphibia</i>		<i>Potamogeton praetorius</i>	
<i>Hydrohypnum luridum</i>		<i>Rumex hydrolapathum</i>		<i>Potamogeton pusillus</i>	
<i>Hydrohypnum ochraceum</i>		<i>Solanum dulcamara</i>	2	<i>Potamogeton indec</i>	
<i>Racomitrium aciculare</i>		<i>Veronica anagallis-aquatica</i>		<i>Potamogeton other sp(p)</i>	
<i>Rhynchostegium riparioides</i>		<i>Veronica beccabunga</i>		<i>Sagittaria sagittifolia</i>	
<i>Sohegnum sp(p)</i>		<i>Veronica catenata</i>		<i>Scirpus fluvians</i>	
Mosses indec		MONOCOTYLEDONS:			
VASCULAR CRYPTOGAMS:		<i>Acorus calamus</i>		<i>S. lacustris/cabernaemon</i>	
<i>Azolla filiculoides</i>		<i>Agrostis stolonifera</i>		<i>Scirpus maritimus</i>	
<i>Equisetum fluviatile</i>		<i>Alisma lanceolatum</i>		<i>Sparganium angustifolium</i>	
<i>Equisetum palustre</i>		<i>Alisma plantago-aquatica</i>		<i>Sparganium emersum</i>	
DICOTYLEDONS:		<i>Alopecurus geniculatus</i>		<i>Sparganium erectum</i>	
<i>Adium inundatum</i>		<i>Buromus umbellatus</i>		<i>Spirodela polyrrhiza</i>	
<i>Adium nodiflorum</i>	2	<i>Carex acuta</i>		<i>Typha latifolia</i>	
<i>Berula erecta</i>		<i>Carex acutiformis</i>		<i>Zannichellia palustris</i>	
<i>Callitricha hamulata</i>		<i>Carex acutiflora</i>		ADDITIONS:	
<i>C. hermanniodisca</i>		<i>Carex elata</i>	1	<i>Urtica dioica</i>	
<i>Callitricha obtusangula</i>		<i>Carex paniculata</i>	1	2.	
<i>Callitricha olivacea</i>		<i>Carex riparia</i>	1	3.	
<i>Callitricha staehelina</i>		<i>Carex rostrata</i>	1	4.	
<i>Callitricha indec</i>	5	<i>Carex vesicaria</i>	1	5.	
<i>Celina palustris</i>		<i>Carex indec</i>	1	6.	
<i>Ceratophyllum demersum</i>		<i>Carex other sp(p)</i>	1	7.	
<i>Epilobium hirsutum</i>	3	<i>Carabrosa aquatica</i>	1	8.	
<i>Hippuris vulgaris</i>		<i>Eleocharis sp(p)</i>	1	9.	
			1	10.	

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 12 SURVEYOR J. JAMES
 NGR top TF 859 169 NGR bottom TF 855 168 Date + time 21.9.93 12.30pm

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>			<i>Elodea nuttallii</i>		
<i>Baccharispermum</i> sp(p)			<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sol(0)</i>		
<i>Lemanea fluviatilis</i>			<i>Myosotis sp(?)</i>			<i>Groenlandia densa</i>		
<i>Vaucheria</i> sol(?)			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha</i> sol(0)			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Siselecionum</i> sp(pi)			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora</i> sp(o)			<i>Nasturtium officinale agg.</i>			<i>Juncus bulbosus</i>		
Other filamentous Greens	3		<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara</i> sol(0)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(?)			<i>Oenanthe crocata</i>			<i>Juncus sol(?)</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibboous)</i>		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg</i>		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Pellia endiviifolia</i>			<i>Ranunculus calcaratus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sp(p)			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts Indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllum</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus inde?</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis squamosa</i>			<i>Roridula amplexicaulis</i>			<i>Potamogeton praelongus</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton indet</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sol(0)</i>		
<i>Rhynchosciadium ripariooides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sohagnum</i> sol(0)			<i>Veronica catenata</i>			<i>Scirpus fluvians</i>		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/lacbernaemon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>			<i>Sporangium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Sporangium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Sporangium erectum</i>		
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Apium inundatum</i>			<i>Bu托omus umbellatus</i>			<i>Typha latifolia</i>		
<i>Apium nodiflorum</i>			<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitrichia hamulata</i>			<i>Carex aquatilis</i>			1. <i>Urtica dioica</i>		
<i>C. hermaphroditica</i>			<i>Carex elata</i>			2.		
<i>Callitrichia obtusangula</i>			<i>Carex paniculata</i>			3.		
<i>Callitrichia oliveriana</i>			<i>Carex riparia</i>			4.		
<i>Callitrichia sciaenalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitrichia</i> indet	5	2	<i>Carex vesicaria</i>			6.		
<i>Celtha palustris</i>			<i>Carex indet</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sol(?)</i>			8.		
<i>Epilobium hirsutum</i>			<i>Catabrosa aquatica</i>			9.		
<i>Hippuris vulgaris</i>			<i>Eleocharis</i> sp(0)			10.		

MACROPHYTES IN WATERCOURSES—FIELD CHECK-LIST

RIVER NAR

SITE 12

SURVEYOR J. JAMES

NGR top TF 859 169

NGR bottom TF 855 168

Date + time 21.9.93 1.30pm

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>	2	1	<i>Elodea nuttallii</i>		
<i>Baccharispermum</i> sp(p)			<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other</i> sp(p)		
<i>Lemnaea fluvialis</i>			<i>Myosotis</i> sp(p)	2	2	<i>Groenlandia densa</i>		
<i>Vaucheria</i> sp(2)			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha</i> sp(gt)			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeclonium</i> sp(p)			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora</i> sp(p)			<i>Nasturtium officinale</i> agg.			<i>Juncus bulbosus</i>		
Other filamentous Greens	2	2	<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara</i> sp(p)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(p)	.		<i>Oenanthe crocata</i>			<i>Juncus</i> sp(p)		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba</i> (gibbous)		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia comosa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sp(p)			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviale</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus</i> indet			<i>Potamogeton polygonifol</i>		
<i>Fontinalis squamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praetorius</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton</i> indet		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton</i> other sp(p)		
<i>Rhynchosciadium riparioides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sohagnum</i> sp(p)			<i>Veronica catenata</i>			<i>Scirpus</i> fluitans		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/taberนาemon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>	2	1	<i>Sparganium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Sparganium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Sparganium erectum</i>	2	1
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Apium inundatum</i>			<i>Bucomus umbellatus</i>			<i>Typha latifolia</i>		
<i>Apium nodiflorum</i>	4	4	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			<i>Conocephalum conicum</i>		
<i>C. hermafroditica</i>			<i>Carex elata</i>			2.		
<i>Callitricha oblongana</i>			<i>Carex paniculata</i>			3. <i>Fissidens cressipes</i>		
<i>Callitricha oliveri</i>			<i>Carex rigida</i>			4. <i>Urtica dioica</i>		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>			5. <i>Cardamine flexuosa</i>		
<i>Callitricha</i> indet	5	5	<i>Carex vesicaria</i>			6.		
<i>Caltha palustris</i>			<i>Carex</i> indet			7.		
<i>Ceratophyllum demersum</i>			<i>Carex</i> other sp(p)			8.		
<i>Epilobium hirsutum</i>	2	2	<i>Calatrosa aquatica</i>			9.		
<i>Hippuris vulgaris</i>			<i>Eleocharis</i> sp(p)			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR

SITE 13

SURVEYOR J. JAMES

NGR top TF 874 169

NGR bottom TF 870 168

Date + time 21.9.93 3pm

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Eiodes canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>			<i>Eiodes nuttallii</i>		
<i>Batrachospermum sp(p)</i>			<i>Menyanthes trifoliata</i>			<i>Glyceria maxima</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(p)</i>		
<i>Lemanea fluviatilis</i>			<i>Myosotis sp(p)</i>	2	2	<i>Groenlandia densa</i>		
<i>Veucheria sol(p)</i>			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha sp(p)</i>			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeonion sp(p)</i>			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora sp(p)</i>			<i>Nasturtium officinale agg.</i>			<i>Juncus bulbosus</i>		
Other filamentous Greens	2		<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara sp(p)</i>			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella sp(p)</i>			<i>Oenanthe crocata</i>			<i>Juncus sol(p)</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibbous)</i>		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg</i>		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia comosa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma sp(p)</i>			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllum</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus indet</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis scutmosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praelongus</i>		
<i>Hydrohypnum tauricum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>	2	2	<i>Potamogeton indet</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sp(p)</i>		
<i>Rhynchosciadium riparioides</i>			<i>Veronica beccabunga</i>			<i>Sazieria sagittifolia</i>		
<i>Sohagnum sp(p)</i>			<i>Veronica catenata</i>			<i>Scirpus fluvians</i>		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/tabernaemon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>			<i>Soarzaniun angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Soarzaniun emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Soarzaniun erectum</i>		
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Soirodela polvrrhiza</i>		
<i>Adium inundatum</i>			<i>Buomus umbellatus</i>			<i>Typha latifolia</i>		
<i>Apium nodiflorum</i>	2	2	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			<i>Urtica dioica</i>	2	2
<i>C. hermaphroditica</i>			<i>Carex elata</i>			2.		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			3.		
<i>Callitricha platycarpa</i>			<i>Carex riparia</i>			4.		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitricha indet</i>	4	3	<i>Carex vesicaria</i>			6.		
<i>Caltha palustris</i>			<i>Carex indet</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sp(p)</i>			8.		
<i>Epilobium hirsutum</i>	15	3	<i>Catabrosa aquatica</i>			9.		
<i>Hippeastrum vulgare</i>			<i>Eleocharis sp(p)</i>			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 13 SURVEYOR J. JAMES
 NGR top TF 874 169 NGR bottom TF 870 168 Date - time 21.9.93 4pm

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	(A)	B	A	S	B	C	

	Rel	Cov		Rel	Cov		Rel	Cov	
ALGAE:									
Blue-Green Mats	1		<i>Littorella uniflora</i>	1			<i>Elodes canadensis</i>	1	
<i>Baccharosphaerum</i> sp(s)	1		<i>Mentha aquatica</i>	1			<i>Elodes nuttallii</i>	1	
<i>Hildenbrandia rivularis</i>	1		<i>Menyanthes trifoliata</i>	1			<i>Glyceria maxima</i>	1	
<i>Lemanea fluviatilis</i>	1		<i>Montia fontana</i>	1			<i>Glyceria other</i> sp(s)	1	
<i>Vaucheria</i> sp(s)	1		<i>Myosotis</i> sp(s)	4	2		<i>Groenlandia densa</i>	1	
<i>Enteromorpha</i> sp(s)	1		<i>Myriophyllum alterniflorum</i>				<i>Iris pseudacorus</i>	1	
<i>Stigeclonium</i> sp(s)	1		<i>Myriophyllum spicatum</i>				<i>Juncus acutiflorus</i>	1	
<i>Cladophora</i> sp(s)	1		<i>Nasturtium officinale</i> agg.				<i>Juncus articulatus</i>	1	
Other filamentous Greens	1		<i>Nostoc lutea</i>				<i>Juncus bulbosus</i>	1	
<i>Chara</i> sp(s)	1		<i>Nymphaea alba</i>				<i>Juncus effusus</i>	1	
<i>Nitella</i> sp(s)	1		<i>Oenanthe crocata</i>				<i>Juncus inflexus</i>	1	
LIVERWORTS:			<i>Oenanthe fluviatilis</i>				<i>Lemna gibba</i> (gibbous)	1	
<i>Chiloscyphus polyanthos</i>			<i>Polygonum amphibium</i>				<i>Lemna minor</i> agg	1	
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>				<i>Lemna trisulca</i>	1	
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>				<i>Phalaris arundinacea</i>	1	
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>				<i>Phragmites australis</i>	1	
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>				<i>Potamogeton alpinus</i>	1	
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>				<i>Potamogeton berchtoldii</i>	1	
<i>Solenostoma</i> sp(p)			<i>Ranunculus fluitans</i>				<i>Potamogeton crispus</i>	1	
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>				<i>Potamogeton friesii</i>	1	
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>				<i>Potamogeton gramineus</i>	1	
MOSSES:			<i>Ranunculus peltatus</i>				<i>Potamogeton lucens</i>	1	
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>				<i>Potamogeton natans</i>	1	
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>				<i>Potamogeton pectinatus</i>	1	
<i>Cinclidotus fontinaloides</i>			<i>Ranunculus sceleratus</i>				<i>Potamogeton perfoliatus</i>	1	
<i>Fontinalis antipyretica</i>			<i>Ranunculus</i> indet				<i>Potamogeton polygonifol</i>	1	
<i>Fontinalis sauamosa</i>			<i>Rorippa amphibia</i>				<i>Potamogeton praetorius</i>	1	
<i>Hydrocharum luridum</i>			<i>Rumex hydrolapathum</i>				<i>Potamogeton pusillus</i>	1	
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>				<i>Potamogeton</i> indet	1	
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>				<i>Potamogeton other</i> sp(p)	1	
<i>Rhynchosciadium riparioides</i>			<i>Veronica beccabunga</i>				<i>Sagittaria sagittifolia</i>	1	
<i>Sohaznum</i> sp(p)			<i>Veronica catenata</i>				<i>Scirpus</i> fluitans	1	
Mosses indet			MONOCOTYLEDONS:				<i>S. lacustris</i> /tabernaemont	1	
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>				<i>Scirpus maritimus</i>	1	
<i>Azolla filiculoides</i>			<i>Agrastis stolonifera</i>				<i>Sporzanium angustifolium</i>	1	
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>				<i>Sporzanium emersum</i>	1	
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>				<i>Sporzanium erectum</i>	1	
DICOTYLEDONS:			<i>Alstroemeria geniculatus</i>				<i>Spirodela polyrrhiza</i>	1	
<i>Apium inundatum</i>			<i>Buettikeria umbellatus</i>				<i>Typha latifolia</i>	1	
<i>Adium nodiflorum</i>			<i>Carex acuta</i>				<i>Zannichellia palustris</i>	1	
<i>Berula erecta</i>			<i>Carex acutiformis</i>				ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>				1. <i>Urtica dioica</i>		
<i>C. hermaphroditica</i>			<i>Carex elata</i>				2.		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>				3.		
<i>Callitricha platycarpa</i>			<i>Carex rigida</i>				4.		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>				5.		
<i>Callitricha</i> indet	5	2	<i>Carex vesicaria</i>				6.		
<i>Caltha palustris</i>			<i>Carex</i> indet				7.		
<i>Ceratophyllum demersum</i>			<i>Carex other</i> sp(s)				8.		
<i>Egloebium hirsutum</i>	2	2.	<i>Carabrosa aquatica</i>				9.		
<i>Hippurus vulgaris</i>			<i>Eleocharis</i> sp(p)				10.		

MACROPHYTES IN WATERCOURSES—FIELD CHECK-LIST

RIVER NAR

SITE 13

SURVEYOR J. JAMES

NGR top TF 874 169

NGR bottom TF 870 168

Date - time 21.9.93 5pm

Site Length	0.5 km (500 m)	0.1 km (100 m)	0.01 km (10 m)				
Cover scale	A	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>			<i>Elodea nuttallii</i>		
<i>Batrachospermum sol(p)</i>			<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(s)</i>		
<i>Lemanea fluviatilis</i>			<i>Myosotis sp(s)</i>	2		<i>Groenlandia densa</i>		
<i>Vaucheria sol(p)</i>			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha sp(p)</i>			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeclonium sp(p)</i>			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora sp(p)</i>			<i>Nasturtium officinale agg.</i>			<i>Juncus bulbosus</i>		
Other filamentous Greens			<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara sp(p)</i>			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella sp(p)</i>			<i>Oenanthe crocata</i>			<i>Juncus sp(s)</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibbous)</i>		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg</i>		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma sp(p)</i>			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts Indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus indec</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis squamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praelongus</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton indec</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sp(p)</i>		
<i>Rhynchosciadium ripariooides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sphagnum sp(p)</i>			<i>Veronica calenata</i>			<i>Scirpus fluviatilis</i>		
Mosses Indet						<i>S. lacustris/taberนาemon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>			<i>Soarzenium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Soarzenium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Soarzenium erectum</i>	2.	
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Soirodela polyrrhiza</i>		
<i>Adium inundatum</i>			<i>Bu托omus umbellatus</i>			<i>Typha latifolia</i>		
<i>Apium nodiflorum</i>	2		<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			1. <i>Lytica dioica</i>	2	
<i>C. hermaphrodita</i>			<i>Carex elata</i>			2. <i>Scrophularia auricula</i>		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			3.		
<i>Callitricha gracilicarpa</i>			<i>Carex ricaria</i>			4.		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitricha indec</i>	4	2	<i>Carex vesicaria</i>			6.		
<i>Caltha palustris</i>			<i>Carex indec</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sp(p)</i>			8.		
<i>Egloboium hirsutum</i>	3	2	<i>Catabrosa aquatica</i>			9.		
<i>Hippurus vulgaris</i>			<i>Eleocharis sp(p)</i>			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR

SITE 14

SURVEYOR J. JAMES

NGR top TF 886 173

NGR bottom TF 882 171

Date - time 22.9.93 9:5am

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>			<i>Elodea nuttallii</i>		
<i>Brachospermum</i> sp(s)			<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(s)</i>		
<i>Lemanea fluviatilis</i>			<i>Myosotis</i> sp(s)			<i>Groenlandia densa</i>		
<i>Vaucheria</i> sp(s)			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorphia</i> sp(p)			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeclonium</i> sp(p)			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora</i> sp(p)			<i>Nasturtium officinale</i> agg.			<i>Juncus bulbosus</i>		
Other filamentous Greens			<i>Nudhar lutea</i>			<i>Juncus effusus</i>		
<i>Chara</i> sp(s)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(s)			<i>Oenanthe crocata</i>			<i>Juncus</i> sp(s)		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibbe</i> (gibbous)		
<i>Chiloscyphus polyanthos</i>			<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg.		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia comosa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	5	5
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sp(p)			<i>Ranunculus fuitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviale</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riarium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus</i> indet			<i>Potamogeton polygonifol</i>		
<i>Fontinalis sauvamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praetorius</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton</i> indet		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton</i> other sp(s)		
<i>Rhynchostegium ripariooides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sohaznum</i> sp(s)			<i>Veronica catenata</i>			<i>Scirpus</i> fluitans		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris</i> /tabernaemont		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>			<i>Soarzaniun angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Soarzaniun emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Soareanium erectum</i>		
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Apium inundatum</i>			<i>Butomus umbellatus</i>			<i>Typha latifolia</i>		
<i>Apium nodiflorum</i>			<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex-acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			<i>Urtica dioica</i>	2	4
<i>C. hermaphroditica</i>			<i>Carex elata</i>			2.		
<i>Callitricha obtusengula</i>			<i>Carex paniculata</i>			3.		
<i>Callitricha ovalcarpa</i>			<i>Carex rigida</i>			4.		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitricha</i> indet			<i>Carex vesicaria</i>			6.		
<i>Caltha galustis</i>			<i>Carex</i> indet			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sp(s)</i>			8.		
<i>Eolobium hirsutum</i>	4	5	<i>Carabrosa aquatica</i>			9.		
<i>Hippuris vulgaris</i>			<i>Eleocharis</i> sp(s)			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 14 SURVEYOR J. JAMES
 NGR top TF 886 173 NGR bottom TF 882 171 Date + time 22.9.93 10.15 am

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	(A)	B	A	B	C		

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:								
Blue-Green Mats			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
<i>Baccharospermum</i> sp(p)			<i>Mentha aquatica</i>			<i>Elodea nuttallii</i>		
<i>Hildenbrandia rivularis</i>			<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>		
<i>Lemanea fluviciliis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(o)</i>		
<i>Vaucheria</i> sp(o)			<i>Myosotis</i> sp(o)			<i>Groenlandia densa</i>		
<i>Enteromorphia</i> sp(o)			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Stigeclonium</i> sp(p)			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Cladophora</i> sp(o)			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
Other filamentous Greens			<i>Nasturtium officinale</i> agg.			<i>Juncus bulbosus</i>		
<i>Chara</i> sp(o)			<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Nitella</i> sp(p)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
LIVERWORTS:			<i>Oenanthe crocata</i>			<i>Juncus</i> sp(o)		
<i>Chiloscyphus polyanthos</i>			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba</i> (gibbous)		
<i>Marsupella emarginata</i>			<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg.		
<i>Nardia compressa</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Pellia endiviifolia</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	4	4
<i>Pellia epiphylla</i>			<i>Ranunculus calcareus</i>			<i>Piagmites australis</i>		
<i>Sceptridium undulata</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Solenostoma</i> sp(p)			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
Foliose Liverworts indet.			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Thalloid Liverworts Indet:			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
MOSSES:			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Cinclidium fontinaloides</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis sauamosa</i>			<i>Ranunculus</i> indet.			<i>Potamogeton polygonifol</i>		
<i>Hydrohypnum luridum</i>			<i>Roridoc. amphibia</i>			<i>Potamogeton praelongus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Rumex hydrolaetum</i>			<i>Potamogeton pusillus</i>		
<i>Racomitrium aciculare</i>			<i>Solanum dulcamara</i>			<i>Potamogeton</i> indet.		
<i>Rhynchosciadium riparioides</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sp(p)</i>		
<i>Sohegnum</i> sp(o)			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
Mosses indet.			<i>Veronica catenata</i>			<i>Scirpus</i> fluitans		
						<i>S. lacustris</i> /tabernaemont		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>	2	1	<i>Soarcanium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Soarcanium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Soarcanium erectum</i>		
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Apium inundatum</i>			<i>Bucomus umbellatus</i>			<i>Typha latifolia</i>		
<i>Apium nodiflorum</i>	5	4	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			<i>Urtica dioica</i>	2	2
<i>C. hermafroditica</i>			<i>Carex elata</i>		1	2.		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>		1	3.		
<i>Callitricha platycarpa</i>			<i>Carex riparia</i>		1	4.		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>		1	5.		
<i>Callitricha</i> indet.			<i>Carex vesicaria</i>		1	6.		
<i>Caltha palustris</i>			<i>Carex</i> indet.		1	7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sp(o)</i>		1	8.		
<i>Eoilibium hirsutum</i>	2	3	<i>Calobrosa aquatica</i>		1	9.		
<i>Hippurus vulgaris</i>			<i>Eleocharis</i> sp(o)		1	10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 14 SURVEYOR J. JAMES
 NGR top TF 886 173 NGR bottom TF 882 171 Date + time 22.9.93 11.15am

Site Length	0.5 km (500 m)	0.1 km (100 m)	0.01 km (10 m)				
Cover scale	A	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>	2		<i>Elodea nuttallii</i>		
<i>Batrachospermum sp(p)</i>			<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(p)</i>		
<i>Lemanea fluviatilis</i>			<i>Myosotis sp(p)</i>	2	2	<i>Groenlandia densa</i>		
<i>Veucheria sp(j)</i>			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha sp(j)</i>			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeclonium sp(p)</i>			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora sp(p)</i>			<i>Nasturtium officinale agg.</i>			<i>Juncus bulbosus</i>		
Other Filamentous Greens			<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara sp(p)</i>			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella sp(p)</i>			<i>Oenanthe crocata</i>			<i>Juncus solo</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibbous)</i>		
<i>Chiloscyphus polyanthos</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg</i>		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	5	5
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton cloinoides</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma sp(p)</i>			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllum</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidium fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton persicarioides</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus indet</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis squamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praelongus</i>		
<i>Hygrohypnum luridum</i>			<i>Rumex hydrolcoptatum</i>			<i>Potamogeton pusillus</i>		
<i>Hygrohypnum ochraceum</i>			<i>Solanum dulcamara</i>	2		<i>Potamogeton indet</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sp(p)</i>		
<i>Rhynchosleziump ripariooides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sphagnum sp(p)</i>			<i>Veronica catenata</i>			<i>Scirpus fluvians</i>		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/taurinaemon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Arrostis stolonifera</i>			<i>Sporzanium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Sporzanium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Sporzanium erectum</i>	2	
DICOTYLEDONS:			<i>Alodecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Adium inundatum</i>			<i>Buromus umbellatus</i>			<i>Typha latifolia</i>		
<i>Adium nodiflorum</i>	4	4	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			<i>Urtica dioica</i>		
<i>C. hermaphroditica</i>			<i>Carex elata</i>			<i>Scrophularia auriculata</i>		
<i>Callitricha obtusaneula</i>			<i>Carex paniculata</i>			<i>Filipendula ulmaria</i>		
<i>Callitricha polarcarpa</i>			<i>Carex riparia</i>			4.		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitricha indet</i>	3	2	<i>Carex vesicaria</i>			6.		
<i>Cattha palustris</i>			<i>Carex indet</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sp(p)</i>			8.		
<i>Eolobium hirsutum</i>	3	3	<i>Catarrosa aquatica</i>			9.		
<i>Hippurus vulgaris</i>			<i>Eleocharis sp(p)</i>			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 15 SURVEYOR J. JAMES
 NGR top TF 892 172 NGR bottom TF 892 175 Date - time 22.9.93 11.30am

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)			
Cover scale	A	B	A	B	A	B	C	

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>	2	2	<i>Elodea nuttallii</i>		
<i>Baileya sp(s)</i>			<i>Menyanthes trifoliata</i>			<i>Glyceria maxima</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(s)</i>		
<i>Lemanea fluviatilis</i>			<i>Mosotis sp(p)</i>	5	3	<i>Groenlandia densa</i>		
<i>Vaucheria sp(s)</i>			<i>Mosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorphia sp(s)</i>			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeoclonium sp(p)</i>			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora sp(p)</i>			<i>Nasturtium officinale agg.</i>			<i>Juncus bulbosus</i>		
Other filamentous Greens	3	2	<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara sp(s)</i>			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella sp(s)</i>			<i>Oenanthe crocata</i>			<i>Juncus sp(s)</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibbous)</i>		
<i>Chiloscyphus polyanthos</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg</i>		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma sp(p)</i>			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts indec			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Inde			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidium fontincola</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus indec</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis squamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praetorius</i>		
<i>Hydrohypnum luriatum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>	2	2	<i>Potamogeton indec</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sp(p)</i>		
<i>Rhynchostegium riparioides</i>			<i>Veronica beccabunga</i>	3	3	<i>Sagittaria sagittifolia</i>		
<i>Sphagnum sp(s)</i>			<i>Veronica caucasica</i>			<i>Scirpus fluvians</i>		
Mosses indec			MONOCOTYLEDONS:				<i>S. lacustris/labernaeon</i>	
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>				<i>Scirpus maritimus</i>	
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>				<i>Sparganium angustifolium</i>	
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>				<i>Sparganium emersum</i>	
<i>Equisetum galustre</i>			<i>Alisma plantago-aquatica</i>				<i>Sparganium erectum</i>	
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>				<i>Spirodela polyrrhiza</i>	
<i>Apium inundatum</i>			<i>Buettikeria umbellatus</i>				<i>Typha latifolia</i>	
<i>Apium nodiflorum</i>	2	1	<i>Carex acuta</i>				<i>Zannichellia palustris</i>	
<i>Berula erecta</i>			<i>Carex acutiformis</i>				ADDITIONS:	
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>				<i>Urtica dioica</i>	2 12
<i>C. hermaphroditica</i>			<i>Carex elata</i>		2			
<i>Callitricha oblongana</i>			<i>Carex paniculata</i>		3.			
<i>Callitricha platycarpa</i>			<i>Carex rigida</i>		4.			
<i>Callitricha staehelina</i>			<i>Carex rostrata</i>		5.			
<i>Callitricha indec</i>			<i>Carex vesicaria</i>		6.			
<i>Caltha palustris</i>			<i>Carex indec</i>		7.			
<i>Ceratophyllum demersum</i>			<i>Carex other sp(s)</i>		8.			
<i>Edobium hirsutum</i>			<i>Catabrosa aquatica</i>		9.			
<i>Hippuris vulgaris</i>			<i>Eleocharis sp(p)</i>		10.			

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAK

SITE 15

SURVEYOR J. JONES

NCR top TF 892 172

NCR bottom TF 892 175

Date - time 22.9.93 12.30 pm

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	(A)	B	A	B	C		

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodes canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>	2		<i>Elodes nuttallii</i>		
<i>Baccharispermum</i> sp(s)			<i>Menyanthes trifoliata</i>			<i>Glyceria maxima</i>		
<i>Hilcendendria rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other solo</i>		
<i>Lemanea fluviatilis</i>			<i>Myosotis solo</i>	5	2	<i>Graenlandia densa</i>		
<i>Vaucheria solo</i>			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha solo</i>			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeonion</i> sp(p)			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora</i> sp(p)			<i>Nasturtium officinale agg.</i>			<i>Juncus bulbosus</i>		
Other filamentous Greens	3		<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara</i> sp(p)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(p)		1	<i>Oenanthe crocata</i>			<i>Juncus solo</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibbous)</i>		
<i>Chiloscyphus polyanthos</i>			<i>Polygonum amphibium</i>			<i>Lemna minor agg</i>	1	1
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sp(p)			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>	3		<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidotus fontinicoloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus indet</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis sauamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praetenuis</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>	2	1	<i>Potamogeton indet</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other sp(p)</i>		
<i>Rhynchostegium riparioides</i>			<i>Veronica beccabunga</i>	3	1	<i>Sagittaria sagittifolia</i>		
<i>Sohagnum solo</i>			<i>Veronica catenata</i>			<i>Scirpus fluviatus</i>		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/caberneamon</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Aerostis stolonifera</i>			<i>Sparganium angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Sparganium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Sparganium erectum</i>		
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Apium inundatum</i>			<i>Buromus umbellatus</i>			<i>Typha latifolia</i>		
<i>Apium nodiflorum</i>	2	1	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			1. <i>Urtica dioica</i>	1	2
<i>C. hermaphroditica</i>			<i>Carex elata</i>	-		2.	-	-
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			3.		
<i>Callitricha oliveri</i>			<i>Carex riparia</i>			4.		
<i>Callitricha stagnalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitricha indet</i>			<i>Carex vesicaria</i>			6.		
<i>Caltha palustris</i>			<i>Carex indet</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other solo</i>			8.		
<i>Eelobium hirsutum</i>			<i>Catarracta caerulea</i>			9.		
<i>Hippurus vulgaris</i>			<i>Eleocharis solo</i>			10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR

SITE 15

SURVEYOR J. JAMES

NGR top TF 892 172

NGR bottom T 892 175

Date + time 22.9.93 1.30pm

Site Length	0.5 km (500 m)	0.1 km (100 m)	0.01 km (10 m)				
Cover scale	(A)	B	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:								
Blue-Green Mats	1		<i>Littorella uniflora</i>	1		<i>Eloes canadensis</i>	1	
<i>Batrachospermum sp(p)</i>	1		<i>Mentha aquatica</i>	1	1	<i>Elodea nuttallii</i>	1	
<i>Hildenbrandia rivularis</i>	1		<i>Menyanthes trifoliata</i>	1		<i>Glyceria maxime</i>	1	
<i>Lemanea fluviciliis</i>	1		<i>Montia fontana</i>	1		<i>Glyceria other sp(s)</i>	1	
<i>Vaucheria sp(s)</i>	1		<i>Myosotis sp(p)</i>	2	1	<i>Groenlandia densa</i>	1	
<i>Enteromorpha sp(s)</i>	1		<i>Myriophyllum alterniflorum</i>	1		<i>Iris pseudacorus</i>	1	
<i>Strigeonium sp(p)</i>	1		<i>Myriophyllum spicatum</i>			<i>Juncus acutiflorus</i>	1	
<i>Cladophora sp(s)</i>	1		<i>Nasturtium officinale agg.</i>			<i>Juncus articulatus</i>	1	
Other filamentous Greens	1	1	<i>Nuphar lutea</i>			<i>Juncus bulbosus</i>	1	
<i>Chara sp(p)</i>	1		<i>Nymphaea alba</i>			<i>Juncus effusus</i>	1	
<i>Nitella sp(p)</i>	1		<i>Oenanthe crocata</i>			<i>Juncus inflexus</i>	1	
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Juncus solo</i>	1	
<i>Chiloscyphus polyanthos</i>	1		<i>Polygonum amphibium</i>			<i>Lemna gibba (gibbous)</i>	1	
<i>Marsupella emarginata</i>	1		<i>Potentilla palustris</i>			<i>Lemna minor agg</i>	1	
<i>Nardia compressa</i>	1		<i>Ranunculus aquatilis</i>	1		<i>Lemna trisulca</i>	1	
<i>Pella endiviifolia</i>	1		<i>Ranunculus calcareus</i>	1		<i>Phalaris arundinacea</i>	2	1
<i>Pellia epiphylla</i>	1		<i>Ranunculus circinatus</i>	1		<i>Phragmites australis</i>	1	
<i>Scapania undulata</i>	1		<i>Ranunculus flammula</i>	1		<i>Potamogeton alpinus</i>	1	
<i>Solenostoma sp(p)</i>	1		<i>Ranunculus fluitans</i>	1		<i>Potamogeton berchtoldii</i>	1	
Foliose Liverworts indet	1		<i>Ranunculus hederaceus</i>	1		<i>Potamogeton crispus</i>	1	
Thalloid Liverworts Indet:	1		<i>Ranunculus omiophyllum</i>	1		<i>Potamogeton friesii</i>	1	
MOSSES:			<i>Ranunculus peltatus</i>	1		<i>Potamogeton gramineus</i>	1	
<i>Amblystegium fluviatile</i>	1		<i>Ranunculus penicillatus</i>	1		<i>Potamogeton lucens</i>	1	
<i>Amblystegium riparium</i>	1		<i>Ranunculus trichophyllum</i>	1		<i>Potamogeton natans</i>	1	
<i>Cinclidium fontinaloides</i>	1		<i>Ranunculus sceleratus</i>	1		<i>Potamogeton perfoliatus</i>	1	
<i>Fontinalis antipyretica</i>	1		<i>Ranunculus indet</i>	1		<i>Potamogeton polygonifol</i>	1	
<i>Fontinalis sauamosa</i>	1		<i>Rorippa amphibia</i>	1		<i>Potamogeton praelongus</i>	1	
<i>Hydrohypnum luridum</i>	1		<i>Rumex hydrologaanthum</i>	1		<i>Potamogeton pusillus</i>	1	
<i>Hydrohypnum ochraceum</i>	1		<i>Solanum dulcamara</i>	2	1	<i>Potamogeton indet</i>	1	
<i>Racomitrium aciculare</i>	1		<i>Veronica anagallis-aquatica</i>	1		<i>Potamogeton other sp(s)</i>	1	
<i>Rhynchosciadium ripariooides</i>	1		<i>Veronica beccabunga</i>	1		<i>Sagittaria sagittifolia</i>	1	
<i>Sohagnum sp(s)</i>	1		<i>Veronica catenata</i>	1		<i>Scirpus fluvians</i>	1	
Mosses indet	1		MONOCOTYLEDONS:			<i>S. lacustris/lobernaemon</i>	1	
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>	1	
<i>Azolla filiculoides</i>	1		<i>Agrostis stolonifera</i>	5	2	<i>Soergonium angustifolim</i>	1	
<i>Equisetum fluviatile</i>	1		<i>Alisma lanceolatum</i>			<i>Sparzaniun emersum</i>	1	
<i>Equisetum palustre</i>	1		<i>Alisma plantago-aquatica</i>			<i>Sparzaniun erectum</i>	1	
DICOTYLEDONS:			<i>Aldoecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>	1	
<i>Adium inundatum</i>	1		<i>Bu托omus umbellatus</i>			<i>Typha latifolia</i>	1	
<i>Adium nodiflorum</i>	2	1	<i>Carex acuta</i>			<i>Zannichellia palustris</i>	1	
<i>Berula erecta</i>	1		<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>	1		<i>Carex aquatilis</i>	1		1. <i>Urtica dioica</i>	3	1
<i>C. hermaphroditica</i>	1		<i>Carex elata</i>	1		2. <i>Ranunculus repens</i>	14	2
<i>Callitricha obtusangula</i>	1		<i>Carex paniculata</i>	1		3.		
<i>Callitricha olivacea</i>	1		<i>Carex riparia</i>	1		4.		
<i>Callitricha staehelina</i>	1		<i>Carex rostrata</i>	1		5.		
<i>Callitricha indet</i>	2	2	<i>Carex vesicaria</i>	1		6.		
<i>Caltha palustris</i>	1		<i>Carex indet</i>	1		7.		
<i>Ceratophyllum demersum</i>	1		<i>Carex other sp(s)</i>	1		8.		
<i>Eelium hirsutum</i>	2	1	<i>Catabrosa aquatica</i>	1		9.		
<i>Hippurus vulgaris</i>	1		<i>Eleocharis sp(p)</i>	1		10.		

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 16 SURVEYOR J. JAMES
 NGR top TF 892 175 NGR bottom TF 888 174 Date - time 24.9.93 10am

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	(A)	B	C

	Ref	Cov		Ref	Cov		Ref	Cov
ALGAE:								
Blue-Green Mats	1		<i>Littorella uniflora</i>	1		<i>Elodes canadensis</i>	1	
<i>Baccharospermum</i> sp(s)	1		<i>Mentha aquatica</i>	2	1	<i>Elodes nuttallii</i>	1	
<i>Hildenbrandia rivularis</i>	1		<i>Menyanthes trifoliata</i>	1		<i>Glyceria maxime</i>	1	
<i>Lemanea fluvicilis</i>	1		<i>Montia fontana</i>	1		<i>Glyceria other sp(s)</i>	1	
<i>Vaucheria</i> sp(s)	1		<i>Myosotis</i> sp(s)	1	1	<i>Groenlandia densa</i>	1	
<i>Enteromorphia</i> sp(g)	1		<i>Myosoton aquaticum</i>	1		<i>Iris pseudacorus</i>	1	
<i>Stigeonion</i> sp(p)	1		<i>Myriophyllum alterniflorum</i>	1		<i>Juncus acutiflorus</i>	1	
<i>Cladophora</i> sp(p)	1		<i>Myriophyllum spicatum</i>	1		<i>Juncus articulatus</i>	1	
Other filamentous Greens	1		<i>Nasturtium officinale</i> agg.	3	2	<i>Juncus bulbosus</i>	1	
<i>Chara</i> sp(p)	1		<i>Nuphar lutea</i>	1		<i>Juncus effusus</i>	1	
<i>Nitella</i> sp(s)	1		<i>Nymphaea alba</i>	1		<i>Juncus inflexus</i>	1	
LIVERWORTS:			<i>Oenanthe crocata</i>	1		<i>Juncus</i> sp(s)	1	
<i>Chiloscyphus polyanthos</i>	1		<i>Oenanthe fluviatilis</i>	1		<i>Lemna gibba</i> (gibbous)	1	
<i>Marsupella emarginata</i>	1		<i>Polygonum amphibium</i>	1		<i>Lemna minor</i> agg	1	2
<i>Nardia compressa</i>	1		<i>Potentilla palustris</i>	1		<i>Lemna trisulca</i>	1	
<i>Pella endiviifolia</i>	1		<i>Ranunculus aquatilis</i>	1		<i>Phalaris arundinacea</i>	1	
<i>Pellia epiphylla</i>	1		<i>Ranunculus calcareus</i>	1		<i>Phragmites australis</i>	1	
<i>Scozia undulata</i>	1		<i>Ranunculus circinatus</i>	1		<i>Poetragodon alpinus</i>	1	
<i>Solenostoma</i> sp(p)	1		<i>Ranunculus flammula</i>	1		<i>Poetragodon berchtoldii</i>	1	
Foliose Liverworts inde:	1		<i>Ranunculus fluitans</i>	1		<i>Poetragodon crispus</i>	1	
Thalloid Liverworts Indet	1		<i>Ranunculus hederaceus</i>	1		<i>Poetragodon friessii</i>	1	
MOSSES:	1		<i>Ranunculus omiophyllus</i>	1		<i>Poetragodon gramineus</i>	1	
<i>Amblystegium fluviale</i>	1		<i>Ranunculus peltatus</i>	1		<i>Poetragodon lucens</i>	1	
<i>Amblystegium riparium</i>	1		<i>Ranunculus penicillatus</i>	1		<i>Poetragodon natans</i>	1	
<i>Cinclidotus fonticloides</i>	1		<i>Ranunculus trichophyllum</i>	1		<i>Poetragodon pectinatus</i>	1	
<i>Fontinalis antipyretica</i>	1		<i>Ranunculus sceleratus</i>	1		<i>Poetragodon perfoliatus</i>	1	
<i>Fontinalis squamosa</i>	1		<i>Ranunculus</i> indet	1		<i>Poetragodon polygonifol</i>	1	
<i>Hydrohypnum luridum</i>	1		<i>Rorippa amphibia</i>	1		<i>Poetragodon praetorius</i>	1	
<i>Hydrohypnum ochraceum</i>	1		<i>Rumex hydrolapathum</i>	1		<i>Poetragodon pusillus</i>	1	
<i>Racomitrium aciculare</i>	1		<i>Solanum dulcamara</i>	1	1	<i>Poetragodon</i> indet	1	
<i>Rhynchostegium riparioides</i>	1		<i>Veronica anagallis-aquatica</i>	2	1	<i>Poetragodon</i> other sp(s)	1	
<i>Sohgnium</i> sp(p)	1		<i>Veronica beccabunga</i>	1		<i>Sagittaria sagittifolia</i>	1	
Mosses indet	1		<i>Veronica catenata</i>	1		<i>Scirpus fluviatus</i>	1	
VASCULAR CRYPTOGAMS:						<i>S. lacustris</i> / <i>tabernaemontani</i>		
<i>Azolla filiculoides</i>	1		<i>Acorus calamus</i>	1		<i>Scirpus maritimus</i>	1	
<i>Equisetum fluviatile</i>	1		<i>Aerostis stolonifera</i>	2	1	<i>Soareastrum angustifolium</i>	1	
<i>Equisetum palustre</i>	1		<i>Alisma lanceolatum</i>	1		<i>Sporangium emersum</i>	1	
DICOTYLEDONS:			<i>Alisma plantago-aquatica</i>	1		<i>Soarzaniumperegrinum</i>	1	
<i>Apium inundatum</i>	1		<i>Alopecurus geniculatus</i>	1		<i>Soirodela polystachya</i>	1	
<i>Apium nodiflorum</i>	4	12	<i>Butomus umbellatus</i>	1		<i>Typha latifolia</i>	1	
<i>Berula erecta</i>	13	12	<i>Carex acuta</i>	1		<i>Zannichellia palustris</i>	1	
<i>Callitricha hamulata</i>	1		<i>Carex acutiflora</i>	1		ADDITIONS:	1	
<i>C. hermaphrodita</i>	1		<i>Carex elata</i>	1		1. <i>Ranunculus repens</i>	1	
<i>Callitricha oblonga</i>	1		<i>Carex paniculata</i>	1		2. <i>Schoenoplectus acutus</i>	1	
<i>Callitricha pluricarpa</i>	1		<i>Carex rostrata</i>	1		3. <i>Comicephala concava</i>	1	
<i>Callitricha stagnalis</i>	1		<i>Carex vesicaria</i>	1		4. <i>Scirpus</i>	1	
<i>Callitricha</i> indet	15	13	<i>Carex</i> indet	1		5. <i>Scirpus</i>	1	
<i>Catocala palustris</i>	1		<i>Carex other sp(s)</i>	1		6. <i>Scirpus</i>	1	
<i>Ceratophyllum demersum</i>	1		<i>Carex</i> other sp(s)	1		7. <i>Scirpus</i>	1	
<i>Epilobium hirsutum</i>	1		<i>Catabrosa aquatica</i>	1		8. <i>Scirpus</i>	1	
<i>Hippuris vulgaris</i>	1		<i>Eleocharis</i> sp(p)	1		9. <i>Scirpus</i>	1	
						10. <i>Scirpus</i>	1	

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 16 SURVEYOR J. JAMES
 NGR top TF 892 175 NGR bottom TF 888 174 Date + time 24.9.93 11am

Site Length	0.5 km (500 m)			0.1 km (100 m)			0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C		

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
Blue-Green Mats			<i>Mentha aquatica</i>			<i>Elodea nuttallii</i>		
<i>Baccharispermum</i> sp(s)			<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other</i> sp(s)		
<i>Lemanea fluviatilis</i>			<i>Myosotis</i> sp(s)			<i>Groenlandia densa</i>		
<i>Vaucheria</i> sp(s)			<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha</i> sp(s)			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Suzektonium</i> sp(s)			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora</i> sp(s)			<i>Nasturtium officinale</i> agg.			<i>Juncus bulbosus</i>		
Other filamentous Greens			<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chers</i> sp(s)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(s)			<i>Oenanthe crocata</i>			<i>Juncus solo</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba</i> (gibbous)		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg.		
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	2	1
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Pellia epiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sp(s)			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllum</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riparium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidotus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus indet</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis sauromosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praelongus</i>		
<i>Hydrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hydrohypnum ochraceum</i>			<i>Solanum dulcamara</i>	2		<i>Potamogeton inde</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>			<i>Potamogeton other</i> sp(s)		
<i>Rhynchosciadium ripariooides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sohagnum</i> sp(s)			<i>Veronica calenata</i>			<i>Scirpus fluvians</i>		
Mosses indet			MONOCOTYLEDONS:			<i>S. lacustris/tabernaemont</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>			<i>Soarzaniun angustifolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Soarzaniun emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Soarzaniun erectum</i>	2	1
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Adium inundatum</i>			<i>Bu托omus umbellatus</i>			<i>Typha latifolia</i>		
<i>Adium nodiflorum</i>	2	1	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Bersia erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitrichia hamulata</i>			<i>Carex aquatilis</i>			1. <i>Ranunculus repens</i>		
<i>C. hermaphroditica</i>			<i>Carex elata</i>			2. <i>Scrophularia auriculata</i>		
<i>Callitrichia obtusangula</i>			<i>Carex paniculata</i>			3. <i>Filipendula ulmaria</i>		
<i>Callitrichia oliveri</i>			<i>Carex riparia</i>			4. <i>Urtica dioica</i>		
<i>Callitrichia stagnalis</i>			<i>Carex rostrata</i>			5. <i>Conocleptium Conicum</i>		
<i>Callitrichia</i> indet	4	2	<i>Carex vesicaria</i>			6.		
<i>Caltha palustris</i>			<i>Carex inde</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other</i> sp(s)			8.		
<i>Epilobium hirsutum</i>	5	2	<i>Catabrosa aquatica</i>			9.		
<i>Hippuris vulgaris</i>			<i>Eleocharis</i> sp(s)			10.		

MACROPHYTES IN WATERCOURSES – FIELD CHECK-LIST

RIVER NAR SITE 16 SURVEYOR J. JAMES
 NGR top TF 892 175 NGR bottom TF 888 174 Date - time 24.9.93 12pm

Site Length	0.5 km (500 m)		0.1 km (100 m)		0.01 km (10 m)		
Cover scale	A	B	A	B	A	B	C

	Rel Cov		Rel Cov		Rel Cov
ALGAE:					
Blue-Green Mats		<i>Littorella uniflora</i>			<i>Elodes canadensis</i>
<i>Batrachospermum sp(s)</i>		<i>Menia aquatica</i>			<i>Elodes nuttallii</i>
<i>Hildenbrandia rivularis</i>		<i>Menyanthes trifoliata</i>			<i>Glyceria maxime</i>
<i>Lemanea fluviatilis</i>		<i>Montia fontana</i>			<i>Glyceria other sp(s)</i>
<i>Vaucheria sp(s)</i>		<i>Myosotis sp(s)</i>	2		<i>Groenlandia densa</i>
<i>Enteromorpha sp(s)</i>		<i>Myosoton aquaticum</i>			<i>Iris pseudacorus</i>
<i>Stigeclonium sp(s)</i>		<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>
<i>Cladophora sp(s)</i>		<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>
Other filamentous Greens		<i>Nasturtium officinale agg.</i>			<i>Juncus bulbosus</i>
<i>Chara sp(s)</i>		<i>Nuphar lutea</i>			<i>Juncus effusus</i>
<i>Nitella sp(s)</i>		<i>Nymphaea alba</i>			<i>Juncus inflexus</i>
LIVERWORTS:		<i>Oenanthe crocata</i>			<i>Juncus sp(s)</i>
<i>Chiloscyphus polyanthos</i>		<i>Oenanthe fluviatilis</i>			<i>Lemna gibba (gibbous)</i>
<i>Marsupella emarginata</i>		<i>Polygonum amphibium</i>			<i>Lemna minor agg</i>
<i>Nardia compressa</i>		<i>Potentilla palustris</i>			<i>Lemna trisulca</i>
<i>Pella endiviifolia</i>		<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>
<i>Pellia epiphylla</i>		<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>
<i>Scozia undulata</i>		<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>
<i>Solenostoma sp(s)</i>		<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>
Foliose Liverworts indet		<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>
Thalloid Liverworts indet		<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>
		<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>
MOSSES:		<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>
<i>Amblystegium fluviatile</i>		<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>
<i>Amblystegium riparium</i>		<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>
<i>Cinclidorus fontinaloides</i>		<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>
<i>Fotinalis antiovretica</i>		<i>Ranunculus indet</i>			<i>Potamogeton polygonifol</i>
<i>Fotinalis sauamosa</i>		<i>Rorippa amphibia</i>			<i>Potamogeton graelongus</i>
<i>Hydrohypnum luridum</i>		<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>
<i>Hydrohypnum ochraceum</i>		<i>Solanum dulcamara</i>			<i>Potamogeton indet</i>
<i>Racomitrium aciculare</i>		<i>Veronica anagallis-aquatica</i>	3		<i>Potamogeton other sp(s)</i>
<i>Rhynchosciadium riparioides</i>		<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>
<i>Sphagnum sp(s)</i>		<i>Veronica catenata</i>			<i>Scirpus fluitans</i>
Mosses indet		MONOCOTYLEDONS:			<i>S. lacustris/rabernaemon</i>
VASCULAR CRYPTOGAMS:		<i>Acorus calamus</i>			<i>Scirpus maritimus</i>
<i>Azolla filiculoides</i>		<i>Agrostis stolonifera</i>			<i>Sporzanium angustifolium</i>
<i>Equisetum fluviatile</i>		<i>Alisma lanceolatum</i>			<i>Sporzanium emersum</i>
<i>Equisetum palustre</i>		<i>Alisma plantago-aquatica</i>			<i>Sporzanium erectum</i>
DICOTYLEDONS:		<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>
<i>Apium inundatum</i>		<i>Buromus umbellatus</i>			<i>Typha latifolia</i>
<i>Apium nodiflorum</i>		<i>Carex acuta</i>			<i>Zannichellia palustris</i>
<i>Berula erecta</i>		<i>Carex acutiformis</i>			ADDITIONS:
<i>Callitricha hamulata</i>		<i>Carex aquatilis</i>		1.	<i>Leucospora nepens</i>
<i>C. hermaphroditica</i>		<i>Carex elata</i>		2.	<i>Scrophularia auriculata</i>
<i>Callitricha obtusangula</i>		<i>Carex paniculata</i>		3.	<i>Altingia ulmaria</i>
<i>Callitricha planiceps</i>		<i>Carex riparia</i>		4.	<i>Urtica dioica</i>
<i>Callitricha stagnalis</i>		<i>Carex rostrata</i>		5.	<i>Convolvulus canescens</i>
<i>Callitricha indet</i>	Ly	<i>Carex vesicaria</i>		6.	
<i>Celtha palustris</i>		<i>Carex indet</i>		7.	
<i>Ceratophyllum demersum</i>		<i>Carex other sp(s)</i>		8.	
<i>Epilobium hirsutum</i>	5	2. <i>Catabrosa aquatica</i>		9.	
<i>Hippuris vulgaris</i>		<i>Eleocharis sp(s)</i>		10.	

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR SITE 17 SURVEYOR J. James
 NGR top TF 893 176 NGR bottom TF 892 175 Date + time 22.9.93 2pm

Site Length	0.5 km (500 m)	0.1 km (100 m)	0.01 km (10 m)				
Cover scale	A	B	A	B	(A)	B	C

	Ref	Cov		Ref	Cov		Ref	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodea canadensis</i>		
Blue-Green Mats	1	1	<i>Mentha aquatica</i>	1	1	<i>Elodea nuttallii</i>	1	
<i>Baccharispermum</i> sp(p)			<i>Menyanthes trifolia</i>			<i>Glyceria maxima</i>		
<i>Hildenbrandia rivularis</i>			<i>Montia fontana</i>			<i>Glyceria other sp(p)</i>	4	13
<i>Lemanea fluviciliis</i>			<i>Mosotis</i> sp(p)			<i>Groenlandia densa</i>		
<i>Vaucheria</i> sp(p)			<i>Mosoton aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha</i> sp(p)			<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeclonium</i> sp(p)			<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladophora</i> sp(p)			<i>Nasturtium officinale</i> agg.	3	2	<i>Juncus bulbosus</i>		
Other filamentous Greens	1	1	<i>Nuphar lutea</i>			<i>Juncus effusus</i>		
<i>Chara</i> sp(p)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(p)	.	1	<i>Oenanthe crocata</i>			<i>Juncus solo</i>		
LIVERWORTS:			<i>Oenanthe fluviatilis</i>			<i>Lemna gibba</i> (gibbous)		
<i>Chiloscyphus polyanthus</i>			<i>Polygonum amphibium</i>			<i>Lemna minor</i> agg.	2	13
<i>Marsupella emarginata</i>			<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia compressa</i>			<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>		
<i>Pella endiviifolia</i>			<i>Ranunculus calcareus</i>			<i>Phragmites australis</i>		
<i>Peltia eodiphylla</i>			<i>Ranunculus circinatus</i>			<i>Potamogeton alpinus</i>		
<i>Scapania undulata</i>			<i>Ranunculus flammula</i>			<i>Potamogeton berchtoldii</i>		
<i>Solenostoma</i> sp(p)			<i>Ranunculus fluitans</i>			<i>Potamogeton crispus</i>		
Foliose Liverworts Indet			<i>Ranunculus hederaceus</i>			<i>Potamogeton friesii</i>		
Thalloid Liverworts Indet			<i>Ranunculus omiophyllus</i>			<i>Potamogeton gramineus</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Potamogeton lucens</i>		
<i>Amblystegium fluviatile</i>			<i>Ranunculus penicillatus</i>			<i>Potamogeton natans</i>		
<i>Amblystegium riolarium</i>			<i>Ranunculus trichophyllum</i>			<i>Potamogeton pectinatus</i>		
<i>Cinclidorus fontinaloides</i>			<i>Ranunculus sceleratus</i>			<i>Potamogeton perfoliatus</i>		
<i>Fontinalis antipyretica</i>			<i>Ranunculus indet</i>			<i>Potamogeton polygonifol</i>		
<i>Fontinalis squamosa</i>			<i>Rorippa amphibia</i>			<i>Potamogeton praetongus</i>		
<i>Hygrohypnum luridum</i>			<i>Rumex hydrolapathum</i>			<i>Potamogeton pusillus</i>		
<i>Hygrohypnum ochraceum</i>			<i>Solanum dulcamara</i>			<i>Potamogeton indet</i>		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>	3	12	<i>Potamogeton other sp(p)</i>		
<i>Rhynchosciadium riparioides</i>			<i>Veronica beccabunga</i>			<i>Sagittaria sagittifolia</i>		
<i>Sphaernum</i> sp(p)			<i>Veronica catenata</i>			<i>Scirpus fluvians</i>		
Mosses Indet			MONOCOTYLEDONS:			<i>S. lacustris/tabernaemont</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>			<i>Agrostis stolonifera</i>	4	3	<i>Soarngium aneuksiefolium</i>		
<i>Equisetum fluviatile</i>			<i>Alisma lanceolatum</i>			<i>Soarngium emersum</i>		
<i>Equisetum palustre</i>			<i>Alisma plantago-aquatica</i>			<i>Soarngium erectum</i>	2	12
DICOTYLEDONS:			<i>Alopecurus geniculatus</i>			<i>Spirodela polyrrhiza</i>		
<i>Apium inundatum</i>			<i>Buromus umbellatus</i>			<i>Typha latifolia</i>		
<i>Apium nodiflorum</i>	4	3	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>			<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitricha hamulata</i>			<i>Carex aquatilis</i>			1. <i>Ranunculus repens</i>	3	2
<i>C. hermafroditica</i>			<i>Carex elata</i>			2. <i>Conocephala conicum</i>		
<i>Callitricha obtusangula</i>			<i>Carex paniculata</i>			3.		
<i>Callitricha oliverae</i>			<i>Carex rigida</i>			4.		
<i>Callitricha staednalis</i>			<i>Carex rostrata</i>			5.		
<i>Callitricha</i> indet	5	5	<i>Carex vesicaria</i>			6.		
<i>Caltha palustris</i>			<i>Carex indet</i>			7.		
<i>Ceratophyllum demersum</i>			<i>Carex other sp(p)</i>			8.		
<i>Epilobium hirsutum</i>	2	2	<i>Calabrosa aquatica</i>			9.		
<i>Hippuris vulgaris</i>			<i>Eleocharis</i> sp(p)			10.		

MACROPHYTES IN WATERCOURSES—FIELD CHECK-LIST

RIVER NAR SITE 17 SURVEYOR J. JAMES
 NGR top TF 893 176 NGR bottom TF 892 175 Date + time 22.9.93 3pm

Site Length	0.5 km (500 m)	0.1 km (100 m)	0.01 km (10 m)		
Cover scale	A	B	A	B	C

	Rel	Cov		Rel	Cov		Rel	Cov
ALGAE:			<i>Littorella uniflora</i>			<i>Elodes canadensis</i>		
Blue-Green Mats	1	1	<i>Mentha aquatica</i>	2	1	<i>Elodes nuttallii</i>		
<i>Baccharospermum</i> sp(s)	1	1	<i>Menyanthes trifoliata</i>			<i>Glyceria maximae</i>		
<i>Hildenbrandia rivularis</i>	1	1	<i>Monica fontana</i>			<i>Glyceria other sp(s)</i>	2	2
<i>Lemnaea fluviciliis</i>	1	1	<i>Mycotis sp(s)</i>	13	12	<i>Groenlandia densa</i>		
<i>Veucheria</i> sp(s)	1	1	<i>Mycotis aquaticum</i>			<i>Iris pseudacorus</i>		
<i>Enteromorpha</i> sp(s)	1	1	<i>Myriophyllum alterniflorum</i>			<i>Juncus acutiflorus</i>		
<i>Stigeonion</i> sp(s)	1	1	<i>Myriophyllum spicatum</i>			<i>Juncus articulatus</i>		
<i>Cladochora</i> sp(s)	1	1	<i>Nasturtium officinale</i> agg.	3	12	<i>Juncus bulbosus</i>		
Other filamentous Greens	1	1	<i>Nucularia lutea</i>			<i>Juncus effusus</i>		
<i>Chera</i> sp(s)			<i>Nymphaea alba</i>			<i>Juncus inflexus</i>		
<i>Nitella</i> sp(s)	1	1	<i>Oenanthe crocata</i>			<i>Juncus sp(s)</i>		
LIVERWORTS:			<i>Oenanthe fluvialis</i>			<i>Lemna gibba (gibbous)</i>		
<i>Chiloscyphus polyanthus</i>			<i>Polyeconum amphibium</i>			<i>Lemna minor</i> agg.	3	4
<i>Marsupella emarginata</i>	1	1	<i>Potentilla palustris</i>			<i>Lemna trisulca</i>		
<i>Nardia comosa</i>	1	1	<i>Ranunculus aquatilis</i>			<i>Phalaris arundinacea</i>	2	1
<i>Pella endiviifolia</i>	1	1	<i>Ranunculus calcareus</i>			<i>Pterozites australis</i>		
<i>Pellia epiphylla</i>	1	1	<i>Ranunculus circinatus</i>			<i>Polemonium glaucum</i>		
<i>Scozia undulata</i>	1	1	<i>Ranunculus flammula</i>			<i>Polemonium berchtoldii</i>		
<i>Solenostoma</i> sp(s)	1	1	<i>Ranunculus fluitans</i>			<i>Polemonium crispus</i>		
Foliose Liverworts index	1	1	<i>Ranunculus hederaceus</i>			<i>Polemonium friesii</i>		
Thalloid Liverworts Index	1	1	<i>Ranunculus omiophyllus</i>			<i>Polemonium gramineum</i>		
MOSSES:			<i>Ranunculus peltatus</i>			<i>Polemonium lucens</i>		
<i>Amblystegium fluviale</i>			<i>Ranunculus penicillatus</i>			<i>Polemonium nudans</i>		
<i>Amblystegium riocarium</i>	1	1	<i>Ranunculus trichophyllus</i>			<i>Polemonium pectinatus</i>		
<i>Cinclidorus fontinaloides</i>	1	1	<i>Ranunculus sceleratus</i>			<i>Polemonium perfoliatum</i>		
<i>Fontinalis antipyretica</i>	1	1	<i>Ranunculus</i> indet.			<i>Polemonium polygonifol</i>		
<i>Foninalis scutmosa</i>	1	1	<i>Rorippa amphibia</i>			<i>Polemonium praelongus</i>		
<i>Hydrocharum luridum</i>	1	1	<i>Rumex hydrolagatum</i>			<i>Polemonium pusillus</i>		
<i>Hydrocharum ochraceum</i>	1	1	<i>Solanum dulcamara</i>			<i>Polemonium</i> indet.		
<i>Racomitrium aciculare</i>			<i>Veronica anagallis-aquatica</i>	3	12	<i>Polemonium other</i> sp(s)		
<i>Rhynchosciadium riceroides</i>			<i>Veronica beccabunga</i>	2	1	<i>Sagittaria sagittifolia</i>		
<i>Sohaznum</i> sp(s)	1	1	<i>Veronica calcarata</i>			<i>Scirpus fluviatilis</i>		
Mosses index			MONOCOTYLEDONS:			<i>S. lacustris/cberneum</i>		
VASCULAR CRYPTOGAMS:			<i>Acorus calamus</i>			<i>Scirpus maritimus</i>		
<i>Azolla filiculoides</i>	1	1	<i>Aerostis stolonifera</i>			<i>Soeranum angustifolium</i>		
<i>Equisetum fluviatile</i>	1	1	<i>Alisma lanceolatum</i>			<i>Soeranum emersum</i>		
<i>Equisetum palustre</i>	1	1	<i>Alisma plantago-aquatica</i>	1	1	<i>Soeranum erectum</i>	2	1
DICOTYLEDONS:			<i>Alogecurus geniculatus</i>			<i>Spiradela polyrrhiza</i>		
<i>Agium inundatum</i>			<i>Buromus umbellatus</i>	1	1	<i>Typha latifolia</i>		
<i>Aodium nodiflorum</i>	3	3	<i>Carex acuta</i>			<i>Zannichellia palustris</i>		
<i>Berula erecta</i>	1	1	<i>Carex acutiformis</i>			ADDITIONS:		
<i>Callitrichia hamulata</i>			<i>Carex aquatilis</i>			<i>Ranunculus repens</i>	2	2
<i>C. hermafroditica</i>	1	1	<i>Carex elatior</i>			<i>Urtica dioica</i>	1	1
<i>Callitrichia obtusangula</i>	1	1	<i>Carex paniculata</i>			<i>Canoccephalum canescens</i>	1	1
<i>Callitrichia glomerata</i>			<i>Carex riparia</i>				1	1
<i>Callitrichia stenocarpa</i>			<i>Carex rostrata</i>				1	1
<i>Callitrichia</i> index	5	4	<i>Carex vesicaria</i>				1	1
<i>Caltha palustris</i>			<i>Carex</i> indet.				1	1
<i>Ceratophyllum demersum</i>			<i>Carex other</i> sp(s)				1	1
<i>Epilobium hirsutum</i>	2	2	<i>Calcareo aquatica</i>				1	1
<i>Hicourus vulgaris</i>			<i>Eleocharis</i> sp(s)				1	1

MACROPHYTES IN WATERCOURSES - FIELD CHECK-LIST

RIVER NAR

SITE 17

SURVEYOR J. JAMES

NCR top TF 893 176

NCR bottom TF 892 145

Date + time 22.9.93 4pm

Site Length	0.5 km (500 m)	0.1 km (100 m)	0.01 km (10 m)				
Cover scale	A	B	A	B	A	S	C

	Rel Cov		Rel Cov		Rel Cov
ALGAE:					
Blue-Green Mats	1	1	<i>Littorella uniflora</i>	1	<i>Elodea canadensis</i>
<i>Baccharospermum</i> sp(s)	1	1	<i>Mentha aquatica</i>	2	<i>Elodea nuttallii</i>
<i>Hildenbrandia rivularis</i>	1	1	<i>Menyanthes trifoliata</i>	1	<i>Glyceria maxima</i>
<i>Lemanea fluviatilis</i>	1	1	<i>Montia fontana</i>	1	<i>Glyceria other</i> sp(s)
<i>Veucheria</i> sp(s)	1	1	<i>Myosotis</i> sp(s)	2	<i>Groenlandia densa</i>
<i>Enteromorpha</i> sp(s)	1	1	<i>Myosoton aquaticum</i>	1	<i>Iris pseudacorus</i>
<i>Scizaeonium</i> sp(s)	1	1	<i>Myriophyllum alterniflorum</i>	1	<i>Juncus acutiflorus</i>
<i>Cladophora</i> sp(s)	1	1	<i>Myriophyllum spicatum</i>	1	<i>Juncus articulatus</i>
Other filamentous Greens	1	1	<i>Nasturtium officinale</i> agg.	3	<i>Juncus bulbosus</i>
<i>Chara</i> sp(s)	1	1	<i>Nuphar lutea</i>	1	<i>Juncus effusus</i>
<i>Nitella</i> sp(s)	1	1	<i>Nymphaea alba</i>	1	<i>Juncus inflexus</i>
LIVERWORTS:			<i>Oenanthaea crocata</i>	1	<i>Juncus</i> sp(s)
<i>Chiloscyphus polyanthus</i>	1	1	<i>Oenanthaea fluviatilis</i>	1	<i>Lemna gibba</i> (gibbous)
<i>Marsupella emarginata</i>	1	1	<i>Polygonum amphibium</i>	1	<i>Lemna minor</i> agg
<i>Nerdia compressa</i>	1	1	<i>Potentilla aestivalis</i>	1	<i>Lemna trisulca</i>
<i>Pella endiviifolia</i>	1	1	<i>Ranunculus aquatilis</i>	1	<i>Phalaris arundinacea</i>
<i>Peltia epionylla</i>	1	1	<i>Ranunculus calcareus</i>	1	<i>Phragmites australis</i>
<i>Scapania undulata</i>	1	1	<i>Ranunculus circinatus</i>	1	<i>Potamogeton elatinus</i>
<i>Solenostoma</i> sp(s)	1	1	<i>Ranunculus flammula</i>	1	<i>Potamogeton berchtoldii</i>
Foliose Liverworts inde:	1	1	<i>Ranunculus fluitans</i>	1	<i>Potamogeton crispus</i>
Thalloid Liverworts Inde:	1	1	<i>Ranunculus hederaceus</i>	1	<i>Potamogeton friesii</i>
MOSSES:	1	1	<i>Ranunculus omiophyllum</i>	1	<i>Potamogeton gramineus</i>
<i>Amblystezium fluviale</i>	1	1	<i>Ranunculus delphinus</i>	1	<i>Potamogeton lucens</i>
<i>Amblystezium riparium</i>	1	1	<i>Ranunculus penicillatus</i>	1	<i>Potamogeton natans</i>
<i>Cinclidium fontinaloides</i>	1	1	<i>Ranunculus trichophyllum</i>	1	<i>Potamogeton pectinatus</i>
<i>Fontinalis antipyretica</i>	1	1	<i>Ranunculus sceleratus</i>	1	<i>Potamogeton perfoliatus</i>
<i>Fontinalis scutmosa</i>	1	1	<i>Ranunculus</i> inde	1	<i>Potamogeton polygonifol</i>
<i>Hydrophyllum luridum</i>	1	1	<i>Rorippa amphibia</i>	1	<i>Potamogeton gracilis</i>
<i>Hydrophyllum ochraceum</i>	1	1	<i>Rumex hydrolapathum</i>	1	<i>Potamogeton pusillus</i>
<i>Racomitrium aciculare</i>	1	1	<i>Solenum diuincanum</i>	1	<i>Potamogeton</i> inde
<i>Rhynchosciadium ricciaeoides</i>	1	1	<i>Veronica anagallis-aquatica</i>	2	<i>Potamogeton</i> other sp(s)
<i>Sphaerium</i> sp(p)	1	1	<i>Veronica beccabunga</i>	1	<i>Sagittaria sagittifolia</i>
Mosses inde:	1	1	<i>Veronica catenata</i>	1	<i>Scirpus fluviensis</i>
VASCULAR CRYPTOGAMS:			MONOCOTYLEDONS:	1	<i>S. lacustris/labernaemon</i>
<i>Azolla filiculoides</i>	1	1	<i>Acorus calamus</i>	1	<i>Scirpus maritimus</i>
<i>Equisetum fluviatile</i>	1	1	<i>Aerostis stolonifera</i>	2	<i>Scorzonera angustifolium</i>
<i>Equisetum palustre</i>	1	1	<i>Alisma lanceolatum</i>	1	<i>Soarzenium emersum</i>
DICOTYLEDONS:			<i>Alisma plantago-aquatica</i>	1	<i>Scorzonera erectum</i>
<i>Adium inundatum</i>	1	1	<i>Alodecurus geniculatus</i>	1	<i>Soirodela polyrrhiza</i>
<i>Adium nodiflorum</i>	1	4	<i>Butomus umbellatus</i>	1	<i>Typha latifolia</i>
<i>Berula erecta</i>	1	1	<i>Carex acuta</i>	1	<i>Zannichellia palustris</i>
<i>Callitricha hemulea</i>	1	1	<i>Carex acutiformis</i>	1	ADDITIONS:
<i>C. hermagphrodites</i>	1	1	<i>Carex aequialis</i>	1	1. <i>Ranunculus repens</i>
<i>Callitricha obtusangula</i>	1	1	<i>Carex elatior</i>	1	2. <i>Urtica dioica</i>
<i>Callitricha obtusangula</i>	1	1	<i>Carex paniculata</i>	1	3. <i>Scrophularia auriculata</i>
<i>Callitricha obtusangula</i>	1	1	<i>Carex rigida</i>	1	4. <i>Convolvulus sepium</i>
<i>Callitricha staelensis</i>	1	1	<i>Carex rostrata</i>	1	5.
<i>Callitricha</i> inde	5	4	<i>Carex vesicaria</i>	1	6.
<i>Celtica</i> obovata	1	1	<i>Carex</i> inde	1	7.
<i>Ceratophyllum demersum</i>	1	1	<i>Carex other</i> sp(s)	1	8.
<i>Epilobium hirsutum</i>	1	2	<i>Carex</i> aquatica	1	9.
<i>Fragilaria vulgaris</i>	1	1	<i>Eleocharis</i> sp(s)	1	10.

APPENDIX 3

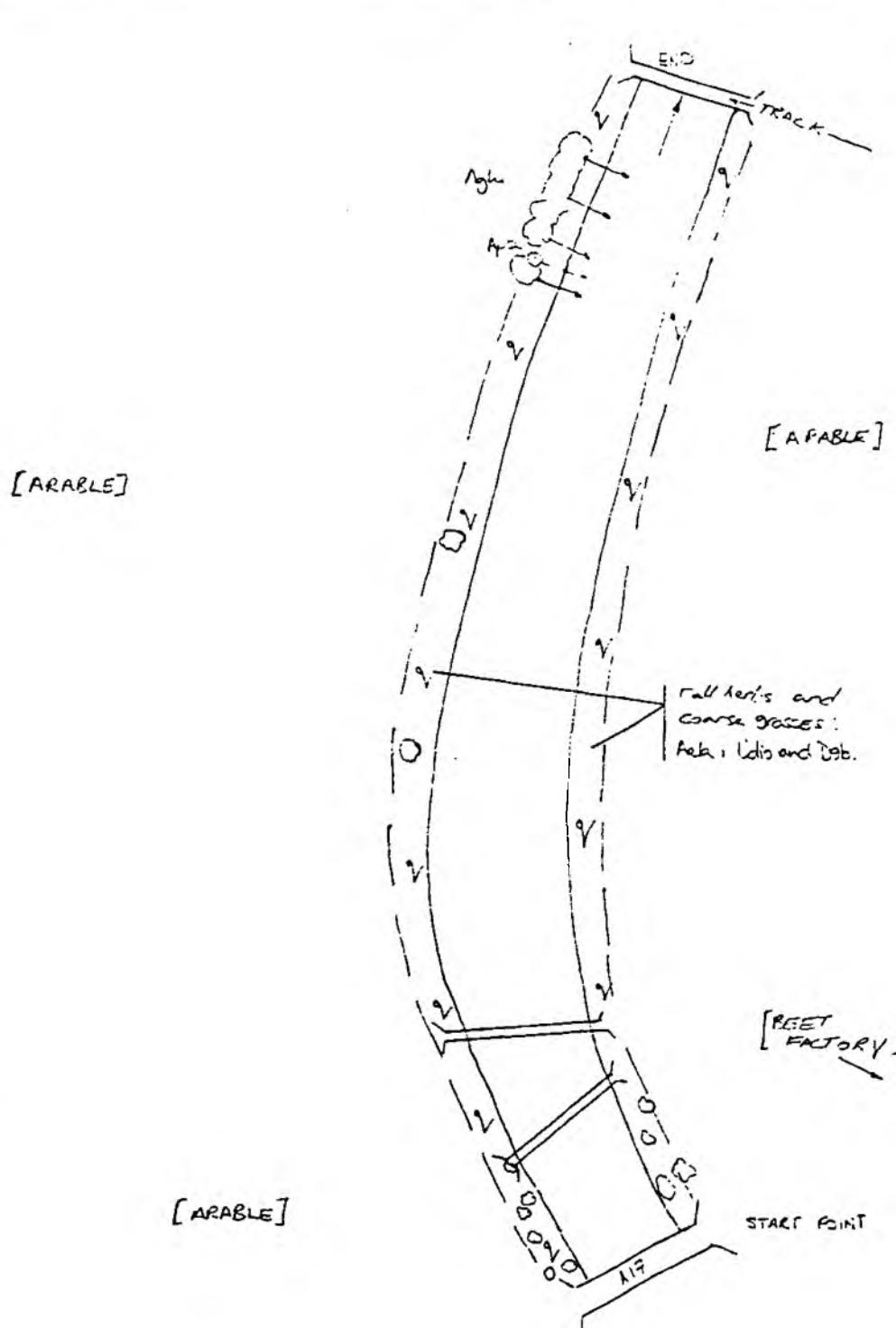
HABITAT MAPS AND HABITAT FEATURES RECORDS

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP

RIVER NAR

SITE NO : 1

DATE : 23.9.93



Habitat Features

RIVER NAK SITE 1 SURVEYOR J. JAMES.....
 NCR top TF 620 174 NCR bottom TF 622 183 .. Date + time 23.9.93 10am

LENGTH SURVEYED

PHYSICAL RECORDS

10 m 1 = <5% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m)	<1 <input type="checkbox"/>	1-5 <input type="checkbox"/>	5-10 <input checked="" type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
-----------	-----------------------------	------------------------------	--	--------------------------------	------------------------------

DEPTH (m)	<0.25 <input type="checkbox"/>	0.25-0.5 <input type="checkbox"/>	0.5-1.0 <input checked="" type="checkbox"/>	>1.0 <input type="checkbox"/>
-----------	--------------------------------	-----------------------------------	---	-------------------------------

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
----------	---	--	----------------------------------	---

SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

100 m

WIDTH (m)	<1 <input type="checkbox"/>	1-5 <input type="checkbox"/>	5-10 <input checked="" type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
-----------	-----------------------------	------------------------------	--	--------------------------------	------------------------------

DEPTH (m)	<0.25 <input type="checkbox"/>	0.25-0.5 <input type="checkbox"/>	0.5-1.0 <input checked="" type="checkbox"/>	>1.0 <input checked="" type="checkbox"/>
-----------	--------------------------------	-----------------------------------	---	--

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
----------	---	--	----------------------------------	---

SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

500 m

WIDTH (m)	<1 <input type="checkbox"/>	1-5 <input type="checkbox"/>	5-10 <input checked="" type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
-----------	-----------------------------	------------------------------	--	--------------------------------	------------------------------

DEPTH (m)	<0.25 <input type="checkbox"/>	0.25-0.5 <input type="checkbox"/>	0.5-1.0 <input checked="" type="checkbox"/>	>1.0 <input checked="" type="checkbox"/>
-----------	--------------------------------	-----------------------------------	---	--

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
----------	---	--	----------------------------------	---

SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP

RIVER NAR

SITE NO : 2

DATE : 23.9.93

N →

Tall herbs and
coarse grasses
including:
Aela, Delo
and Rdt.

ROAD

END

[INDUSTRI]

[INDUSTRI]

AIO

START POINT

Habitat Features

RIVER NAR SITE 2 SURVEYOR J. JAMES

NCR top ... TP ... 636 ... 134 NCR base= ... TP ... 631 ... 135 Date + time 23. 9. 93 12.30 pm

LENGTH SURVEYED

PHYSICAL RECORDS

10 m = <5% of total 2 = 5-25% of total 3 = >25% of total

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
----------	---	--	----------------------------------	---

SHADING Left Bank:	Noce <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	Noce <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

100 m

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
----------	--------------------------------	--	----------------------------------	---

SHADING Left Bank:	Noce <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	Noce <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

500 m

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
----------	---	--	----------------------------------	---

SHADING Left Bank:	Noce <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	Noce <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP

RIVER NAR

SITE NO : 3

DATE : 23.9.93

N →

Tall herbs and
coarse grasses:
Udis, Aca, Plan
and Dobs.

[APABLE]

Floodbanks

[SEMI-IMPROVED]
GRASSLAND

START POINT
HIGH BRIDGE

Habitat Features

RIVER ... NAR SITE 3 SURVEYOR ... J. JAMES.....
 NCR top ... Tf... 610...135 NCR bottom ... Tf... 665...135 Date + time 23.9.93...3pm.

LENGTH SURVEYED

PHYSICAL RECORDS

10 = 1 = <5% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

100 =

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

500 =

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

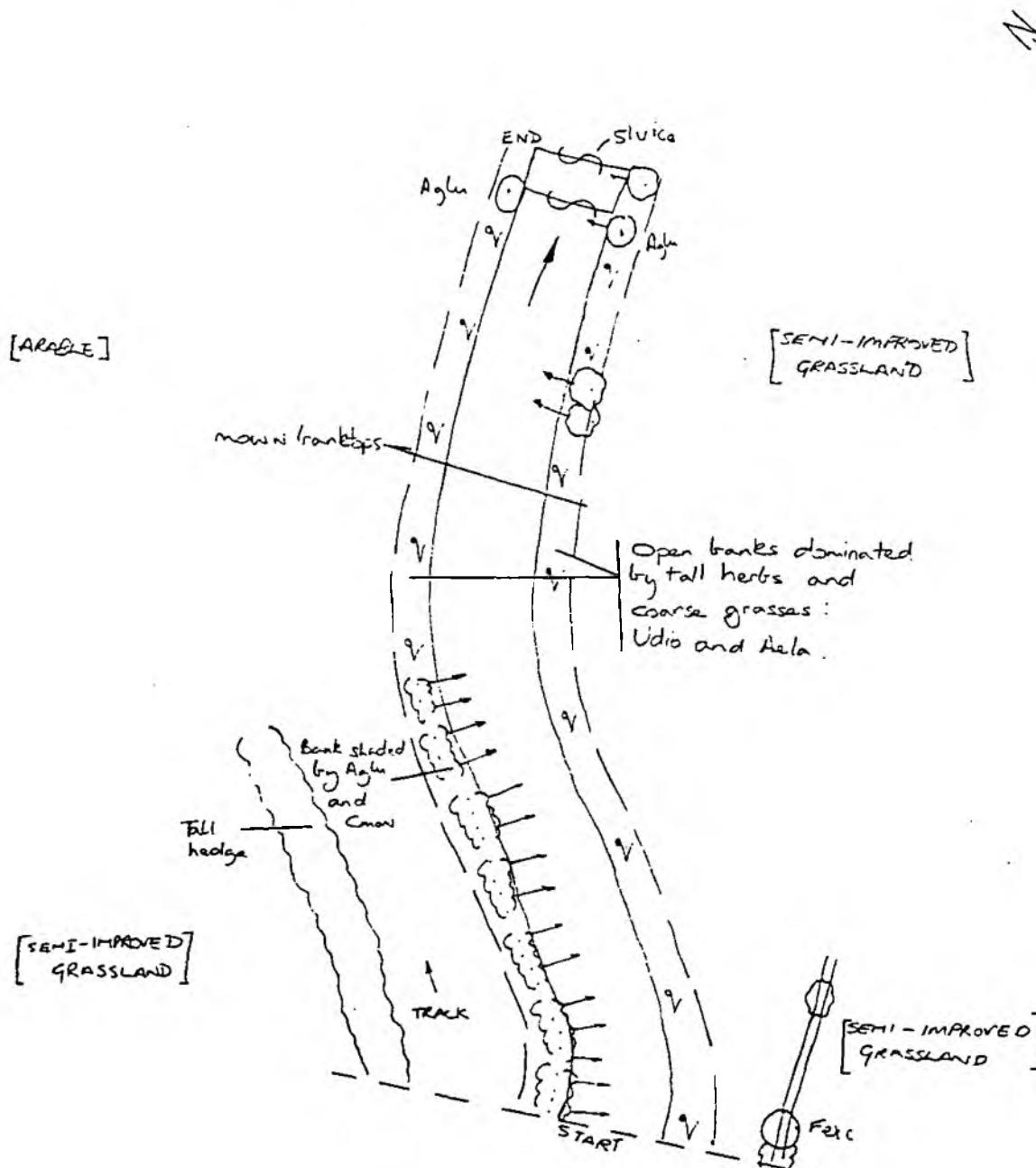
SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP

RIVER NAR

SITE NO : 4

DATE : 24.9.93



Habitat Features

RIVER NAR SITE 4 SURVEYOR J. JAMES

NCR cap. TF. 729.12.4 NCR bottom. TF. 725.121. Date + elev. 24.9.93. 8.30 am.

LENGTH SURVEYED

PHYSICAL RECORDS

10 = 1 = <5% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m) <: 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input checked="" type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

100 =

WIDTH (m) <: 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input checked="" type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

500 =

WIDTH (m) <: 1-5 5-10 10-20 >20

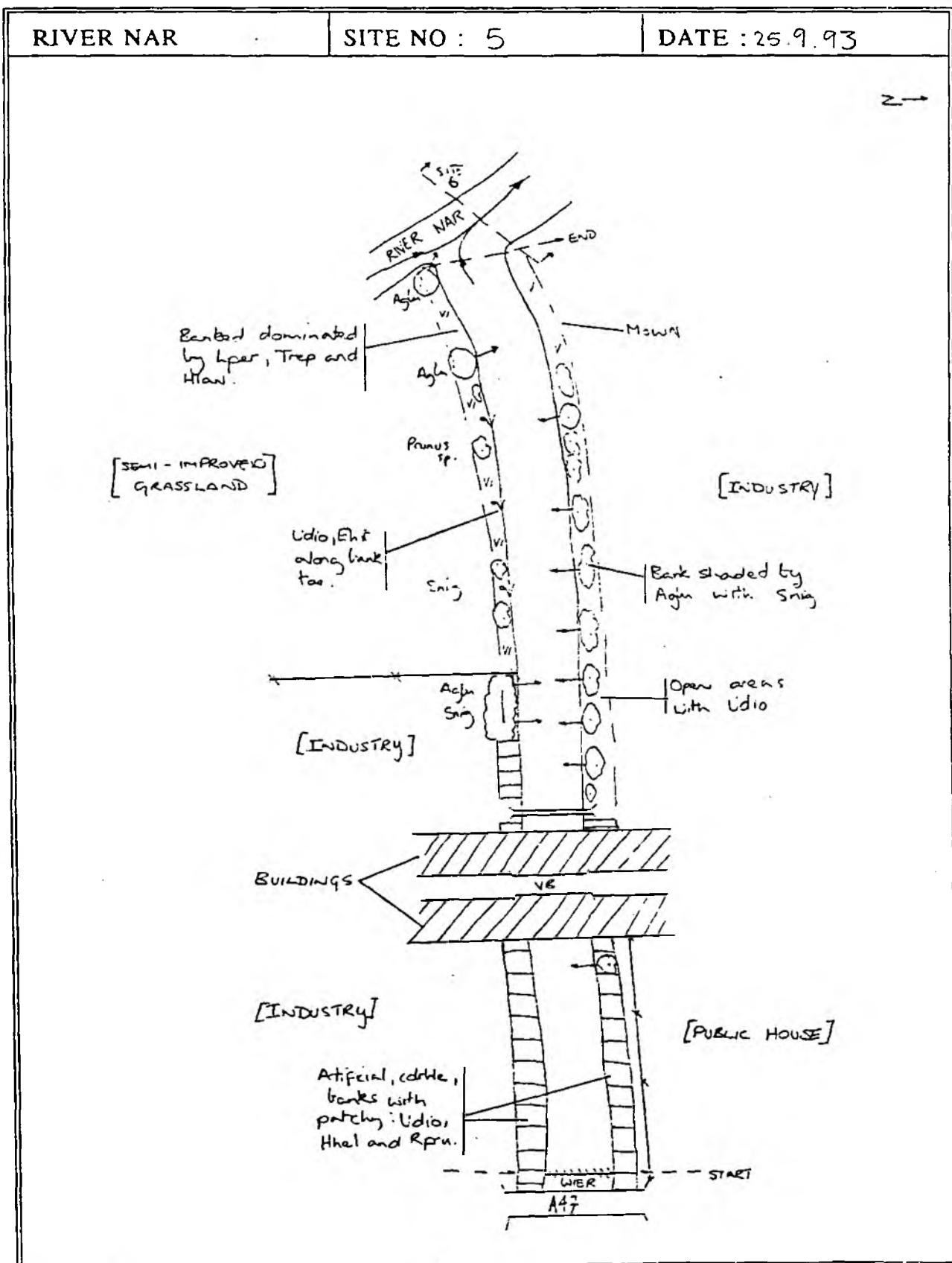
DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input checked="" type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input checked="" type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP



Habitat Features

RIVER MAR

SITE 5

SURVEYOR J. JAMES

NCR 102 TR 747.133 SUR 102 TR 745.132 DUE + TIME 23.9.93 9.30 AM

LENGTH SURVEYED

PHYSICAL RECORDS

10 =

WATER (m) <1.0 1-5 5-10 10-20 >20

DEPTH (m) <0.5 0.5-1.0 0.5-1.0 >1.0

SUBSTRATES Bed rock Boulders Cobble Pebbles Gravel

Sand Silty sand Clay Peat

ROCKS Pools Slacks Riffles Fast deep water

SHADING Left Bank: None Shrub: Moderate Dense

Right Bank: None Shrub: Moderate Dense

ICA =

WATER (m) <1.0 1-5 5-10 10-20 >20

DEPTH (m) <0.5 0.5-1.0 0.5-1.0 >1.0

SUBSTRATES Bed rock Boulders Cobble Pebbles Gravel

Sand Silty sand Clay Peat

ROCKS Pools Slacks Riffles Fast deep water

SHADING Left Bank: None Shrub: Moderate Dense

Right Bank: None Shrub: Moderate Dense

SCO =

WATER (m) <1.0 1-5 5-10 10-20 >20

DEPTH (m) <0.5 0.5-1.0 0.5-1.0 >1.0

SUBSTRATES Bed rock Boulders Cobble Pebbles Gravel

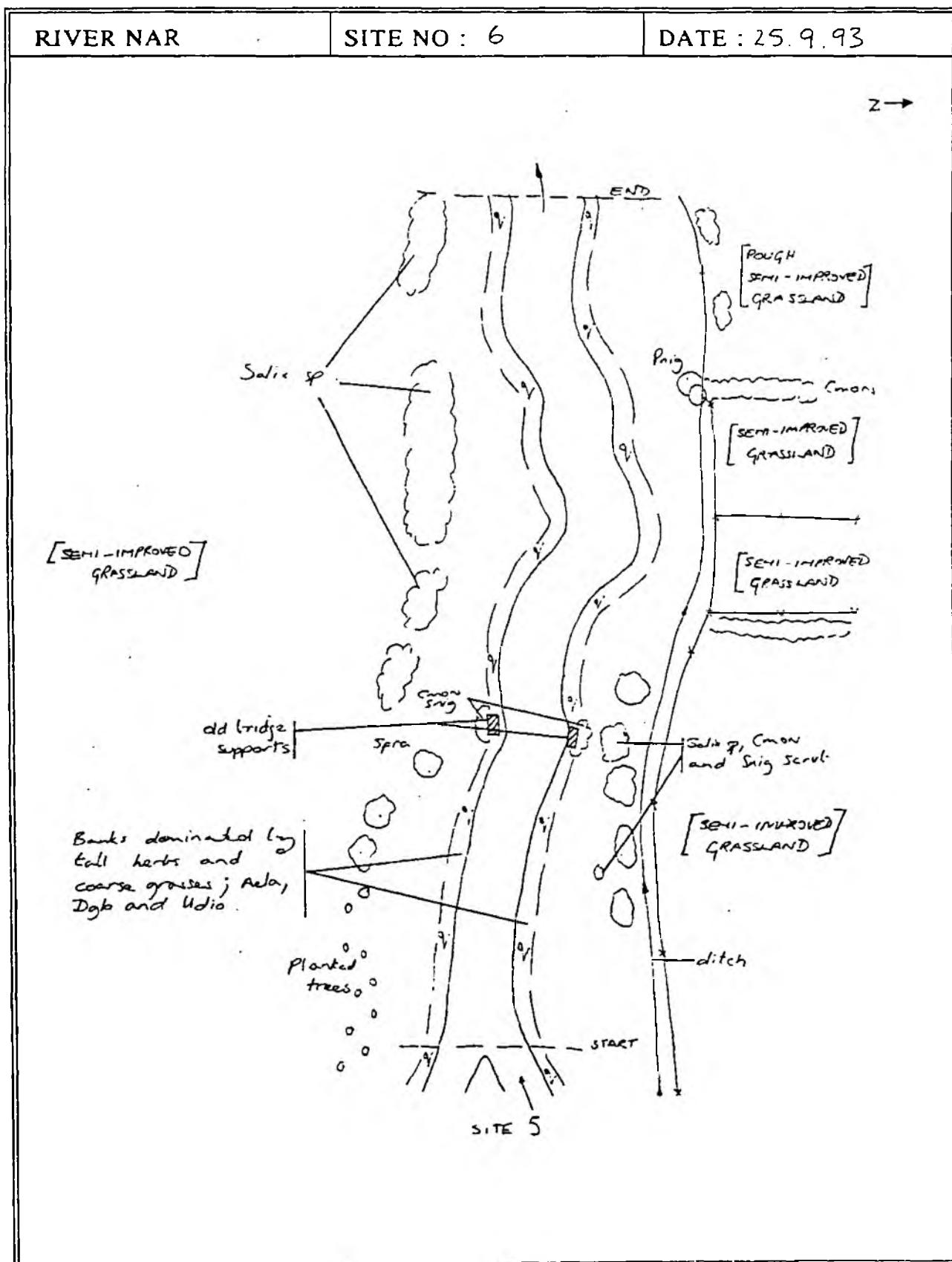
Sand Silty sand Clay Peat

ROCKS Pools Slacks Riffles Fast deep water

SHADING Left Bank: None Shrub: Moderate Dense

Right Bank: None Shrub: Moderate Dense

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP



Habitat Features

RIVER...NAR..... SITE..... 6 SURVEYOR ... J. JONES ..
 NCR loc. TF. 745.132..... NCR base= TF. 740.132..... Date = date 25.9.93 12pm

LENGTH SURVEYED

PHYSICAL RECORDS

10 = 1 = <5% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Grovel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank: None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank: None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

100 =

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Grovel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank: None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank: None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

500 =

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Grovel <input type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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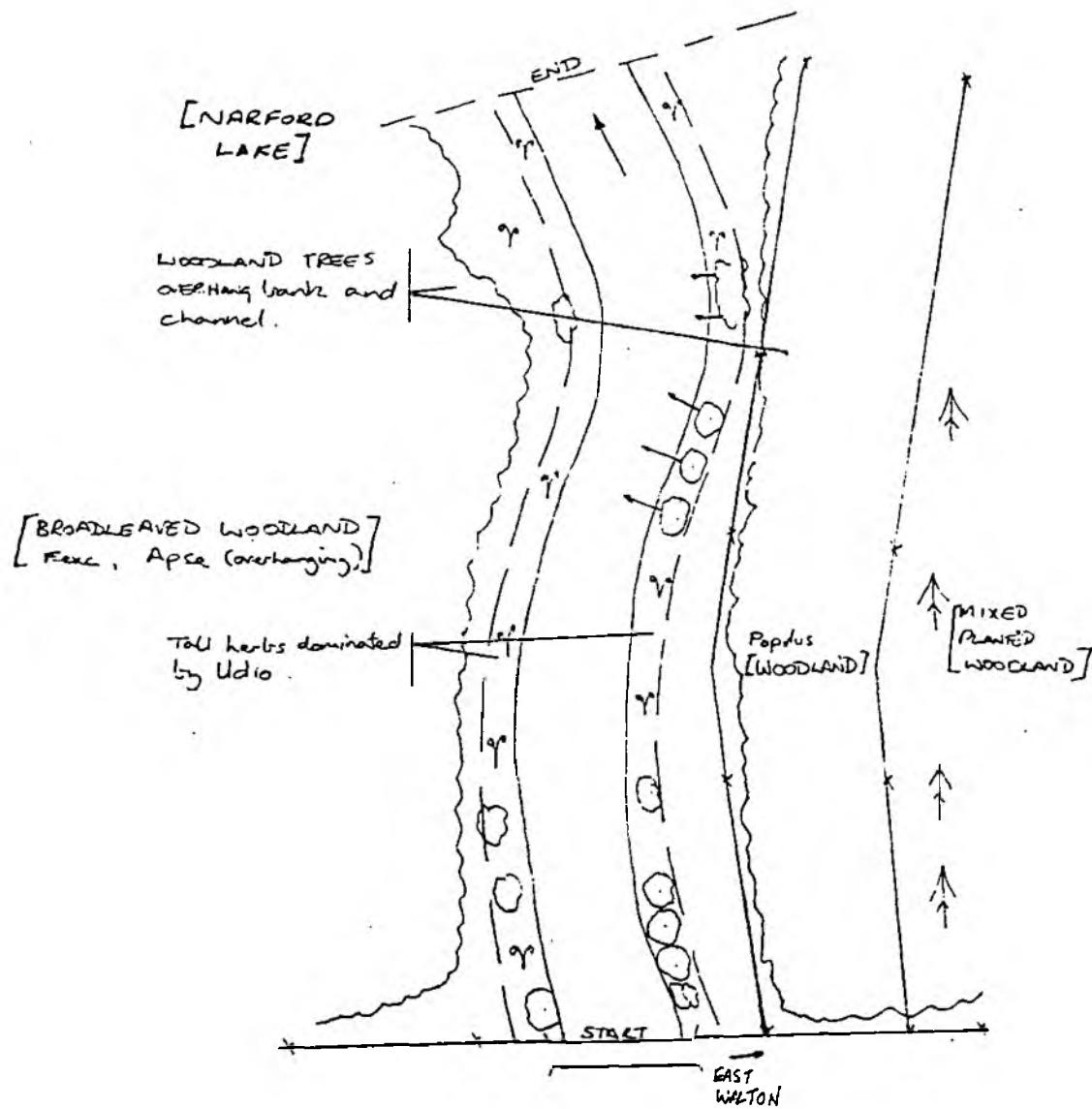
SHADING Left Bank: None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank: None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP

RIVER NAR

SITE NO : 7

DATE : 24.9.93



Habitat Features

RIVER.....NAR..... SITE.....#..... SURVEYOR.....J. JAMES.....

NCR NO. T.F. 765.142..... DATE.....NOV. 760.141..... DATE + 24.9. 93. 3.50pm

LENGTH SURVEYED

PHYSICAL RECORDS

10 = 1 = Cm. of total 2 = Cm. of total 3 = >Cm. of total

WIDTH (m) <: □ 1-5 □ 5-10 □ 10-20 □ >20 □

DEPTH (m) <1.25 □ 0.25-0.5 □ 0.5-1.0 □ >1.0 □

SUBSTRATES Bed rock □ Bedrock □ Cobble □ Pebble □ Gravel □

Sand □ Siltsand □ Clay □ Peat □

HABITATS Pools □ Shallows □ Riffles □ Deep water

SEADING Left Bank: None □ Shallow □ Moderate □ Deep □

Right Bank: None □ Shallow □ Moderate □ Deep □

100 =

WIDTH (m) <: □ 1-5 □ 5-10 □ 10-20 □ >20 □

DEPTH (m) <1.25 □ 0.25-0.5 □ 0.5-1.0 □ >1.0 □

SUBSTRATES Bed rock □ Bedrock □ Cobble □ Pebble □ Gravel □

Sand □ Siltsand □ Clay □ Peat □

HABITATS Pools □ Shallows □ Riffles □ Deep water

SEADING Left Bank: None □ Shallow □ Moderate □ Deep □

Right Bank: None □ Shallow □ Moderate □ Deep □

500 =

WIDTH (m) <: □ 1-5 □ 5-10 □ 10-20 □ >20 □

DEPTH (m) <1.25 □ 0.25-0.5 □ 0.5-1.0 □ >1.0 □

SUBSTRATES Bed rock □ Bedrock □ Cobble □ Pebble □ Gravel □

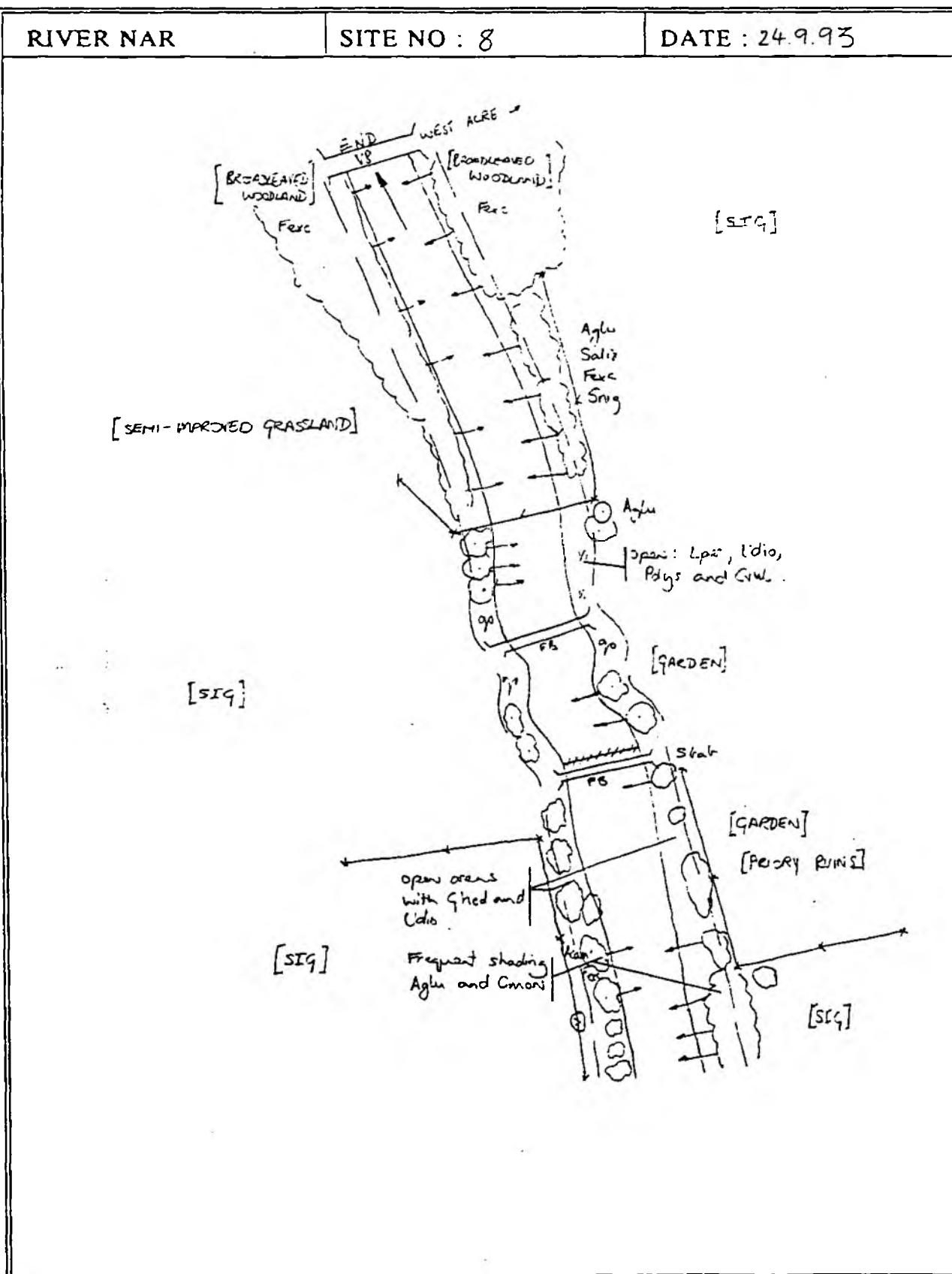
Sand □ Siltsand □ Clay □ Peat □

HABITATS Pools □ Shallows □ Riffles □ Deep water

SEADING Left Bank: None □ Shallow □ Moderate □ Deep □

Right Bank: None □ Shallow □ Moderate □ Deep □

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP



Habitat Features

RIVER ... NAR SITE 8 SURVEYOR ... J. JAMES
 NCR top TF...713.152 NCR bottom TF...779.148... Date + time 24.9.93 12pm.

LENGTH SURVEYED

PHYSICAL RECORDS

10 m

1 = <5% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m)

<1 1-5 5-10 10-20 >20

DEPTH (m)

<0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES

Bed rock	<input type="checkbox"/>	Boulders	<input checked="" type="checkbox"/>	Cobbles	<input type="checkbox"/>	Pebbles	<input type="checkbox"/>	Gravel	<input checked="" type="checkbox"/>
Sand	<input checked="" type="checkbox"/>	Silt/mud	<input checked="" type="checkbox"/>	Clay	<input type="checkbox"/>	Fine	<input type="checkbox"/>		

HABITATS

Pools	<input checked="" type="checkbox"/>	Slacks	<input checked="" type="checkbox"/>	Riffles	<input type="checkbox"/>	Fast, deep water	<input type="checkbox"/>
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SHADING Left Bank:

Noise	<input checked="" type="checkbox"/>	Slight	<input type="checkbox"/>	Moderate	<input type="checkbox"/>	Dense	<input checked="" type="checkbox"/>
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Right Bank:

Noise	<input type="checkbox"/>	Slight	<input type="checkbox"/>	Moderate	<input type="checkbox"/>	Dense	<input checked="" type="checkbox"/>
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100 m

WIDTH (m)

<1 1-5 5-10 10-20 >20

DEPTH (m)

<0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES

Bed rock	<input type="checkbox"/>	Boulders	<input checked="" type="checkbox"/>	Cobbles	<input type="checkbox"/>	Pebbles	<input type="checkbox"/>	Gravel	<input checked="" type="checkbox"/>
Sand	<input type="checkbox"/>	Silt/mud	<input checked="" type="checkbox"/>	Clay	<input type="checkbox"/>	Fine	<input type="checkbox"/>		

HABITATS

Pools	<input checked="" type="checkbox"/>	Slacks	<input checked="" type="checkbox"/>	Riffles	<input checked="" type="checkbox"/>	Fast, deep water	<input type="checkbox"/>
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SHADING Left Bank:

Noise	<input type="checkbox"/>	Slight	<input checked="" type="checkbox"/>	Moderate	<input type="checkbox"/>	Dense	<input checked="" type="checkbox"/>
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Right Bank:

Noise	<input type="checkbox"/>	Slight	<input checked="" type="checkbox"/>	Moderate	<input type="checkbox"/>	Dense	<input checked="" type="checkbox"/>
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500 m

WIDTH (m)

<1 1-5 5-10 10-20 >20

DEPTH (m)

<0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES

Bed rock	<input type="checkbox"/>	Boulders	<input checked="" type="checkbox"/>	Cobbles	<input checked="" type="checkbox"/>	Pebbles	<input checked="" type="checkbox"/>	Gravel	<input checked="" type="checkbox"/>
Sand	<input checked="" type="checkbox"/>	Silt/mud	<input checked="" type="checkbox"/>	Clay	<input type="checkbox"/>	Fine	<input type="checkbox"/>		

HABITATS

Pools	<input checked="" type="checkbox"/>	Slacks	<input checked="" type="checkbox"/>	Riffles	<input checked="" type="checkbox"/>	Fast, deep water	<input type="checkbox"/>
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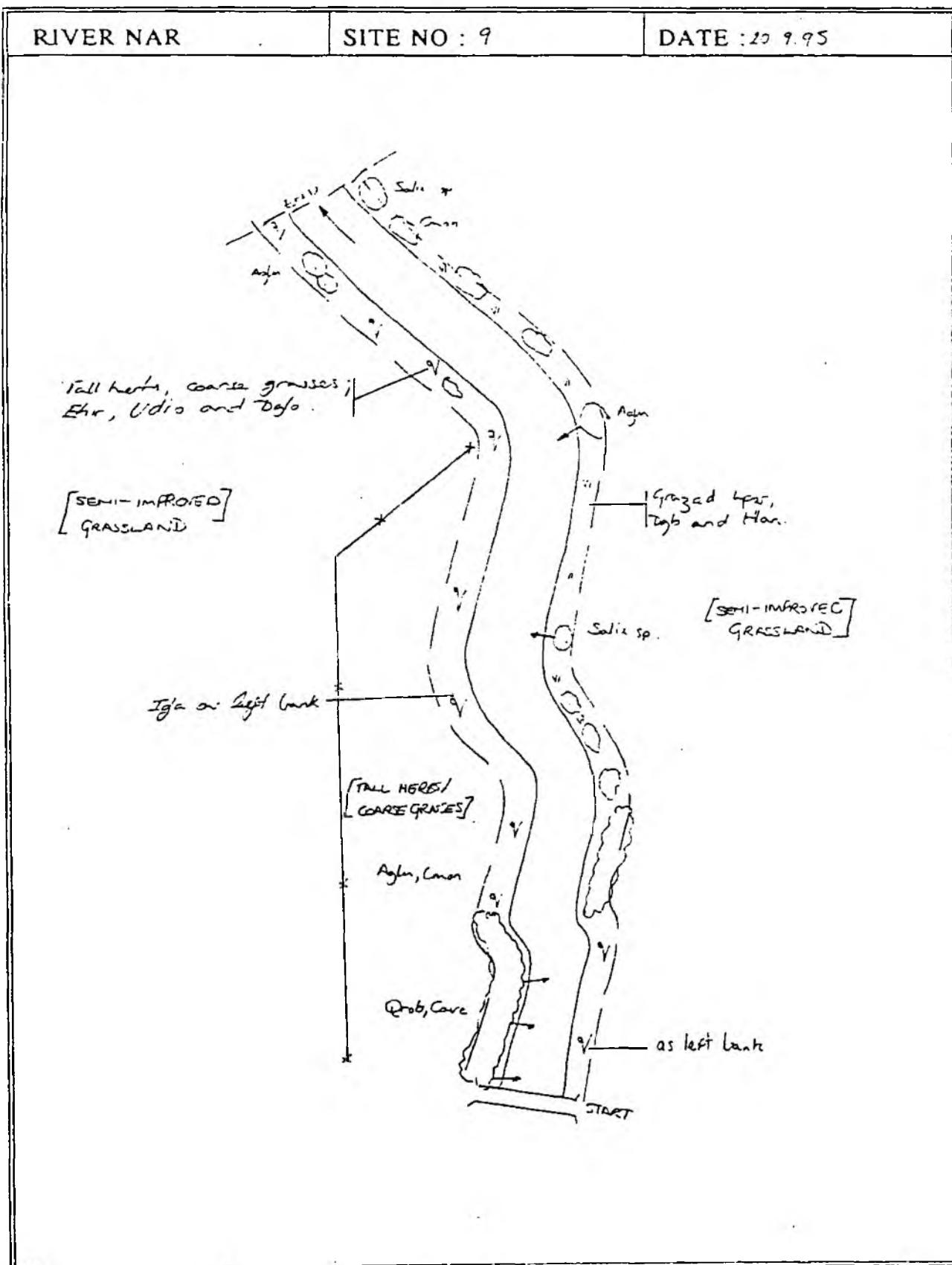
SHADING Left Bank:

Noise	<input type="checkbox"/>	Slight	<input checked="" type="checkbox"/>	Moderate	<input type="checkbox"/>	Dense	<input checked="" type="checkbox"/>
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Right Bank:

Noise	<input type="checkbox"/>	Slight	<input checked="" type="checkbox"/>	Moderate	<input type="checkbox"/>	Dense	<input checked="" type="checkbox"/>
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AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP



Habitat Features

RIVER NAR SITE 9 SURVEYOR J. James
 NCR loc. TF 816, 145 ... NCR tran. TF 812, 147 ... Date + time .. 22.9.93. 11am.

LENGTH SURVEYED

PHYSICAL RECORDS

10 m = 1 = <5% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m)	<: <input type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
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DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input type="checkbox"/>	0.5-1.0 <input type="checkbox"/>	>1.0 <input type="checkbox"/>
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SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input checked="" type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input type="checkbox"/>	Silt/mud <input type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input type="checkbox"/>	Riffles <input checked="" type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	Noce <input type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input checked="" type="checkbox"/>
Right Bank:	Noce <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

100 m =

WIDTH (m)	<: <input type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
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DEPTH (m)	<0.25 <input type="checkbox"/>	0.25-0.5 <input checked="" type="checkbox"/>	0.5-1.0 <input checked="" type="checkbox"/>	>1.0 <input type="checkbox"/>
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SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	Noce <input type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input checked="" type="checkbox"/>
Right Bank:	Noce <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input type="checkbox"/>

500 m =

WIDTH (m)	<: <input type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
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DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input checked="" type="checkbox"/>	0.5-1.0 <input type="checkbox"/>	>1.0 <input type="checkbox"/>
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SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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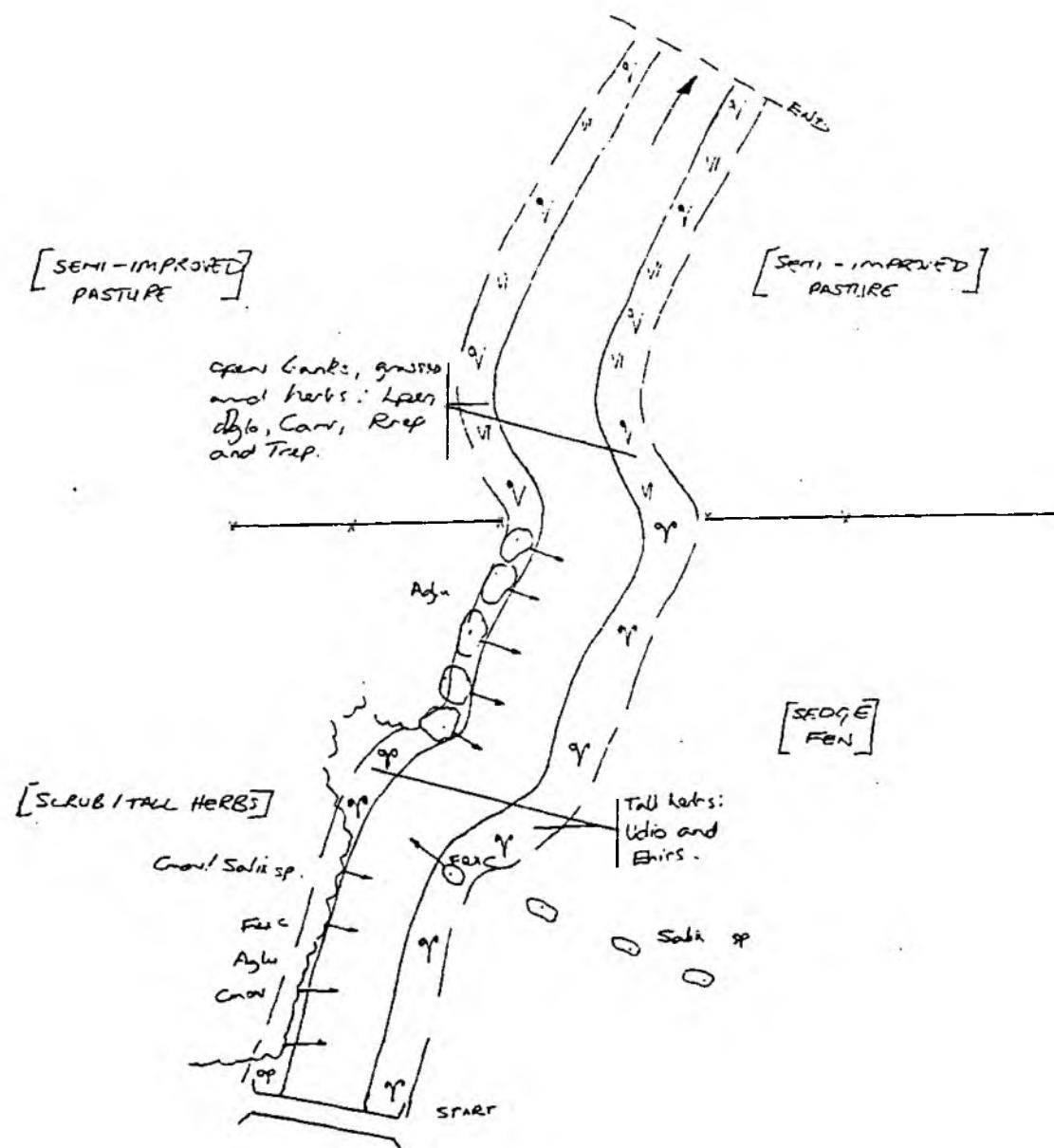
SHADING Left Bank:	Noce <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	Noce <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input type="checkbox"/>

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP

RIVER NAR

SITE NO : 10

DATE : 20.9.93



Habitat Features

RIVER...NAR SITE ... 10 SURVEYOR ... J. James
 NCR top ... TF ... 827.154 NCR bottom ... TF ... 844.150 ... Date + time ... 20.9.93 ... 3pm.

LENGTH SURVEYED

PHYSICAL RECORDS

10 m = 1 = <25% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m)	<1 <input type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
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DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input type="checkbox"/>	0.5-1.0 <input type="checkbox"/>	>1.0 <input type="checkbox"/>
-----------	---	-----------------------------------	----------------------------------	-------------------------------

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input checked="" type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input type="checkbox"/>	Riffles <input checked="" type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

100 m

WIDTH (m)	<1 <input type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
-----------	-----------------------------	---	-------------------------------	--------------------------------	------------------------------

DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input checked="" type="checkbox"/>	0.5-1.0 <input checked="" type="checkbox"/>	>1.0 <input type="checkbox"/>
-----------	---	--	---	-------------------------------

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

500 m

WIDTH (m)	<1 <input type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
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DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input checked="" type="checkbox"/>	0.5-1.0 <input checked="" type="checkbox"/>	>1.0 <input type="checkbox"/>
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SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input checked="" type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input checked="" type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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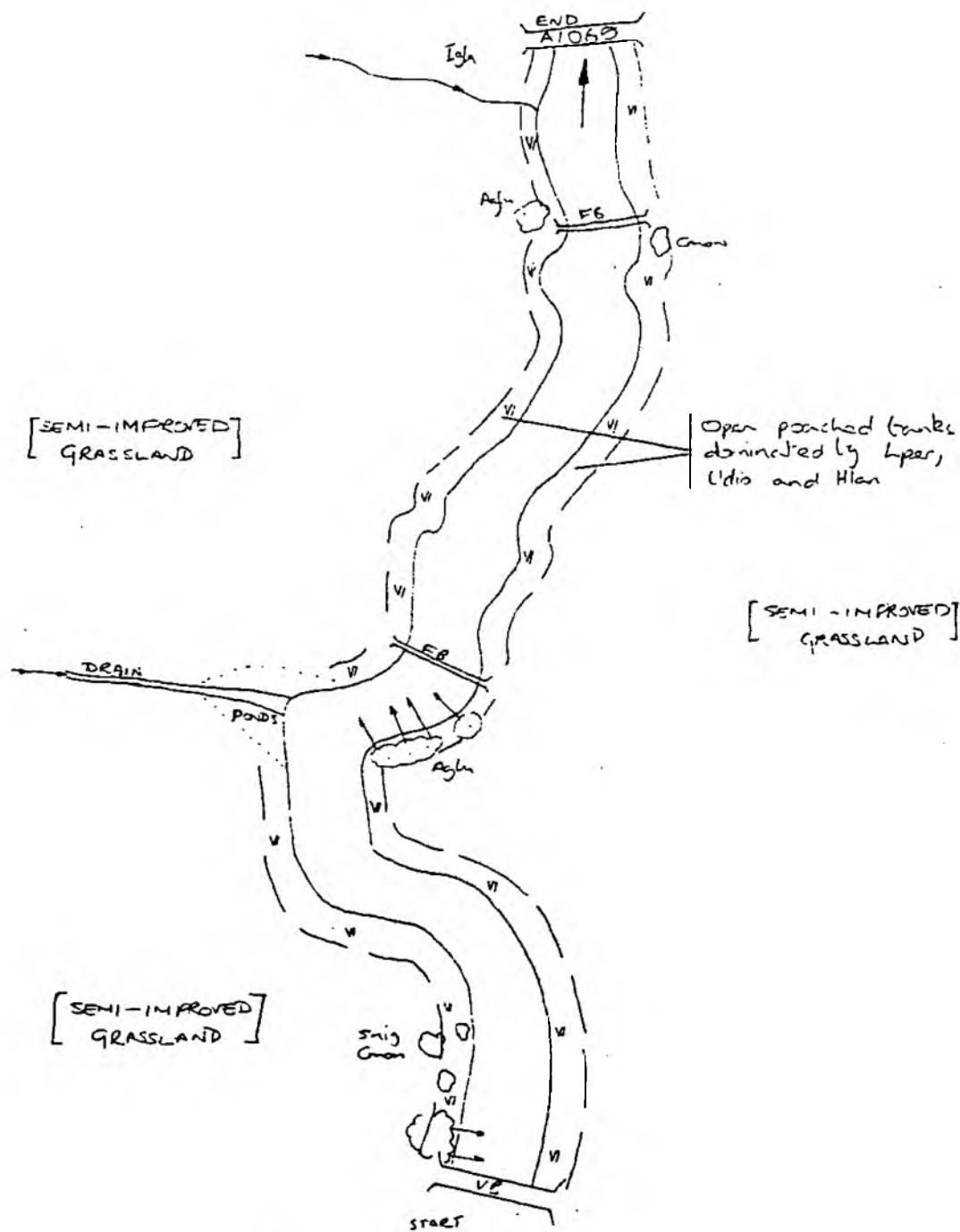
SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP

RIVER NAR

SITE NO : 11

DATE : 21.9.93



Habitat Features

RIVER...NAR..... SITE.....II..... SURVEYOR...J. JAMES S.
 NGR ref...TF. 942.170..... NGR Sec....TR. 838170..... Date + time...21.9.93...9AM

LENGTH SURVEYED

PHYSICAL RECORDS

10 m 1 = <1% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m)	<1 [3]	1-5 []	5-10 []	10-20 []	>20 []
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DEPTH (m)	<0.25 [3]	0.25-0.5 []	0.5-1.0 []	>1.0 []
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SUBSTRATES	Bed rock []	Boulders []	Cobbles []	Pebbles []	Gravel [3]
	Sand [3]	Silt/mud [2]	Clay []	Peat []	

HABITATS	Pools []	Slacks [3]	Riffles []	Fast, deep water []
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SHADING Left Bank:	None []	Slight []	Moderate [3]	Dense []
Right Bank:	None [1]	Slight []	Moderate []	Dense []

100 m

WIDTH (m)	<1 [3]	1-5 []	5-10 []	10-20 []	>20 []
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DEPTH (m)	<0.25 [3]	0.25-0.5 []	0.5-1.0 []	>1.0 []
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SUBSTRATES	Bed rock []	Boulders []	Cobbles []	Pebbles []	Gravel [3]
	Sand [3]	Silt/mud [3]	Clay []	Peat []	

HABITATS	Pools []	Slacks [3]	Riffles [2]	Fast, deep water []
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SHADING Left Bank:	None [3]	Slight []	Moderate []	Dense []
Right Bank:	None [3]	Slight []	Moderate []	Dense []

500 m

WIDTH (m)	<1 [3]	1-5 [2]	5-10 []	10-20 []	>20 []
-----------	--------	---------	----------	-----------	---------

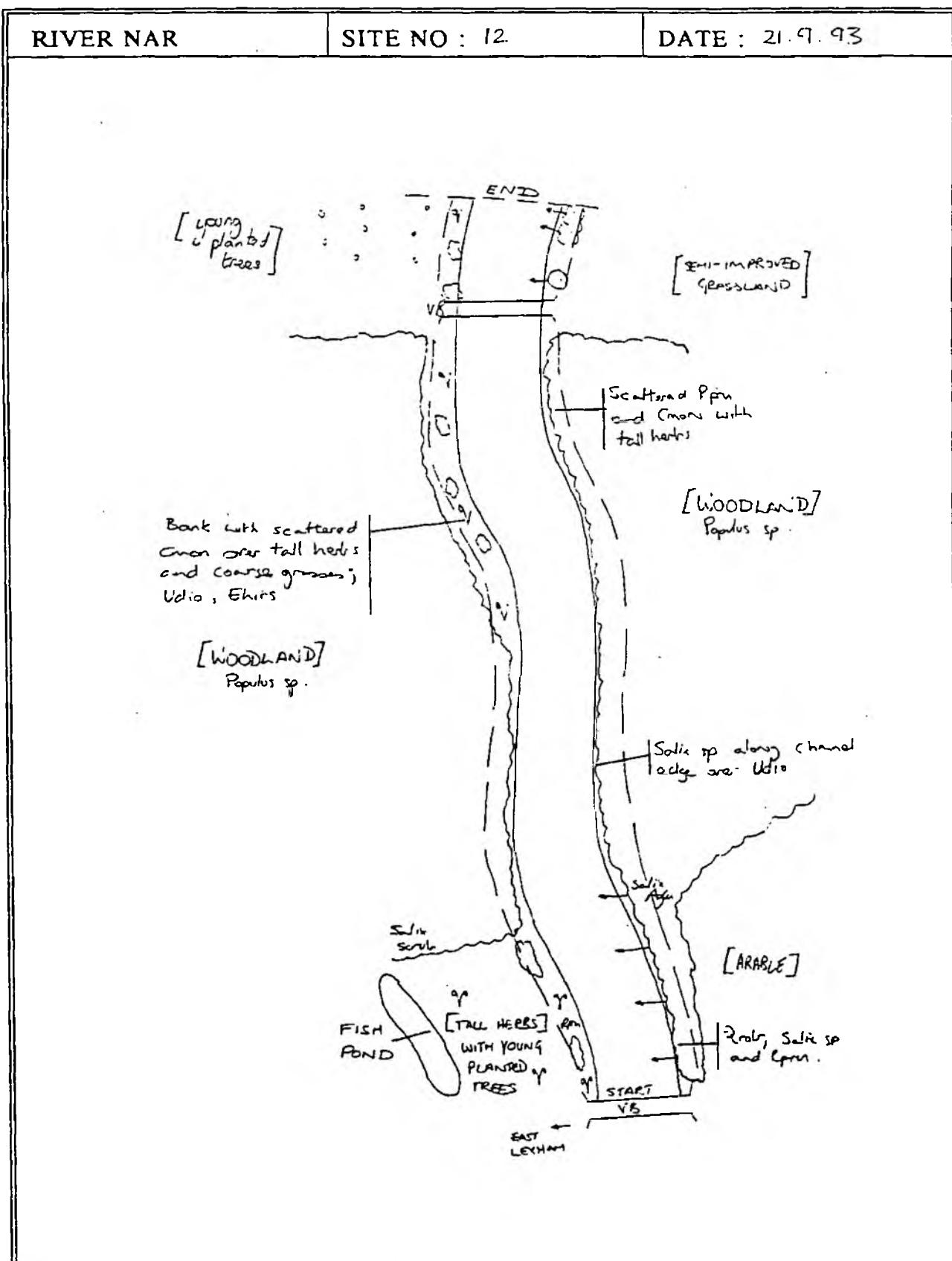
DEPTH (m)	<0.25 [2]	0.25-0.5 [3]	0.5-1.0 []	>1.0 []
-----------	-----------	--------------	-------------	----------

SUBSTRATES	Bed rock []	Boulders []	Cobbles []	Pebbles []	Gravel [2]
	Sand [2]	Silt/mud [3]	Clay []	Peat []	

HABITATS	Pools [1]	Slacks [3]	Riffles [2]	Fast, deep water []
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SHADING Left Bank:	None [3]	Slight []	Moderate []	Dense []
Right Bank:	None [3]	Slight []	Moderate []	Dense []

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP



Habitat Features

RIVER ... NAR SITE 12 SURVEYOR ... J. JAMES

NCR top ... TF... 859.169 NCR bottom ... TF... 855.168 Date + time 21.9.93 ... 11.30 am ..

LENGTH SURVEYED

PHYSICAL RECORDS

10 m 1 = <5% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input checked="" type="checkbox"/>

100 m

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input checked="" type="checkbox"/>

500 m

WIDTH (m) <1 1-5 5-10 10-20 >20

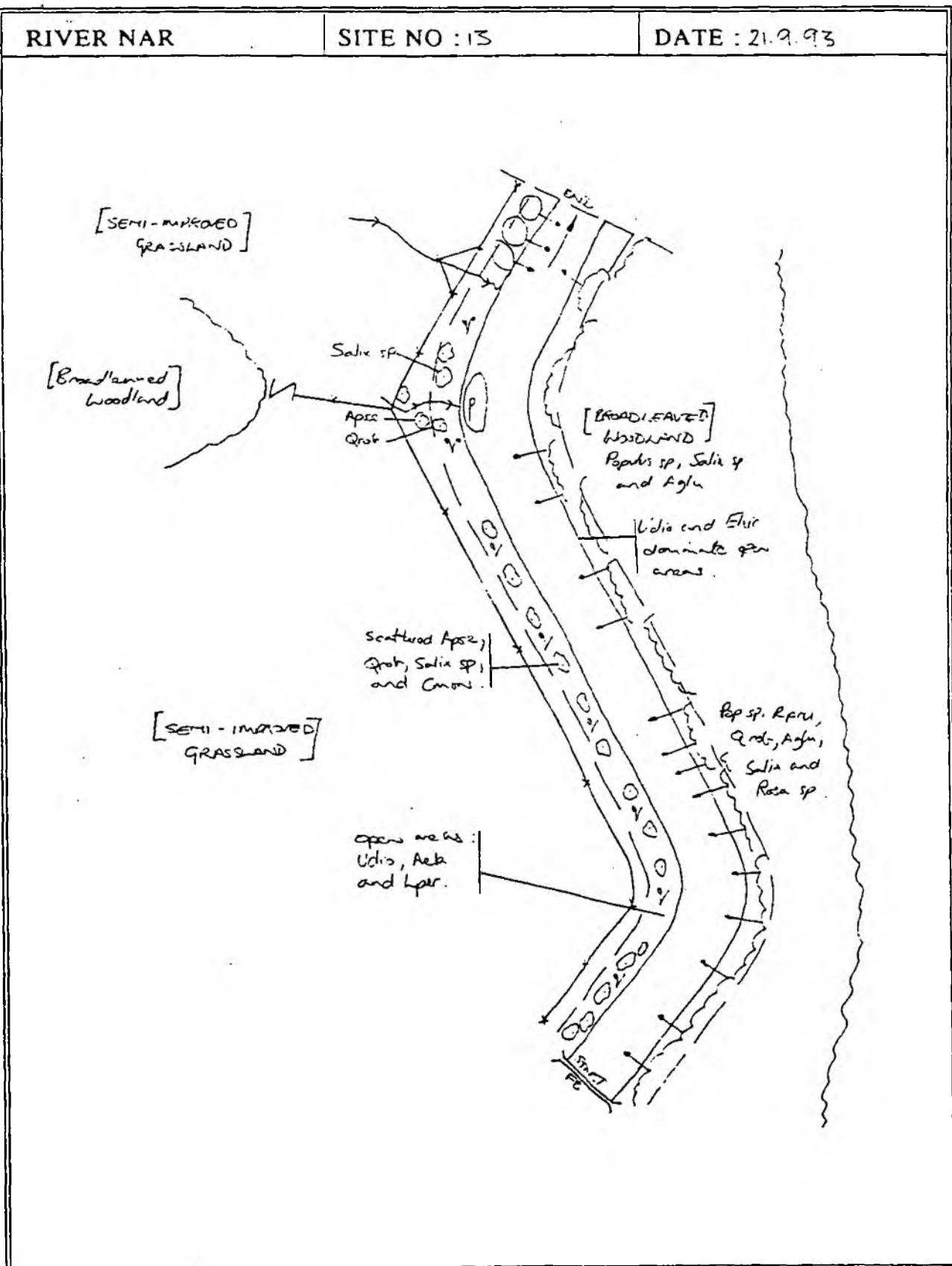
DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
----------	---	--	----------------------------------	---

SHADING Left Bank:	None <input type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input checked="" type="checkbox"/>
Right Bank:	None <input type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input checked="" type="checkbox"/>

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP



Habitat Features

RIVER NAR SITE 13 SURVEYOR J. JAMES....
 NGR top. TF... 874.169 NGR bottom. TF... 870.168... Date + time. 21.9.93. 3pm

LENGTH SURVEYED

PHYSICAL RECORDS

10 m 1 = <5% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	Noce <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

100 m

WIDTH (m) <1 1-5 5-10 10-20 >20

DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	Noce <input checked="" type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	Noce <input type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input checked="" type="checkbox"/>

500 m

WIDTH (m) <1 1-5 5-10 10-20 >20

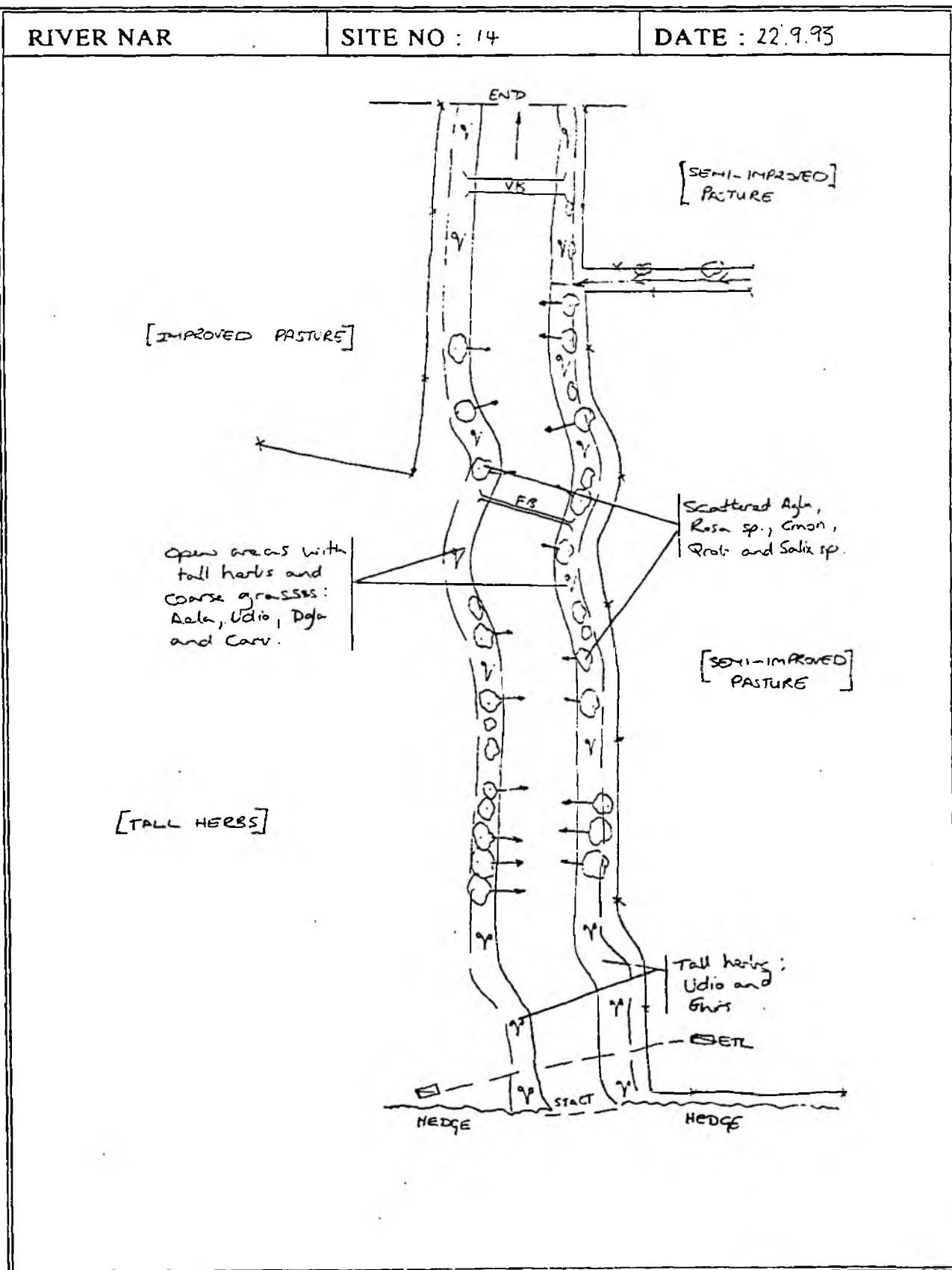
DEPTH (m) <0.25 0.25-0.5 0.5-1.0 >1.0

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input checked="" type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
----------	---	--	----------------------------------	---

SHADING Left Bank:	Noce <input type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input checked="" type="checkbox"/>
Right Bank:	Noce <input checked="" type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP



Habitat Features

RIVER ... NAR SITE 14 SURVEYOR ... J. JAMES ...
 NCR top TF ... 886.173 NCR bottom TF ... 882.171 ... Date + 22.9.93 ... 9.15 am

LENGTH SURVEYED

PHYSICAL RECORDS

10 m . 1 = <5% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m)	<1 <input type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
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DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input type="checkbox"/>	0.5-1.0 <input type="checkbox"/>	>1.0 <input type="checkbox"/>
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SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
----------	--------------------------------	--	----------------------------------	---

SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

100 m

WIDTH (m)	<1 <input type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
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DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input type="checkbox"/>	0.5-1.0 <input type="checkbox"/>	>1.0 <input type="checkbox"/>
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SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input type="checkbox"/>

500 m

WIDTH (m)	<1 <input type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
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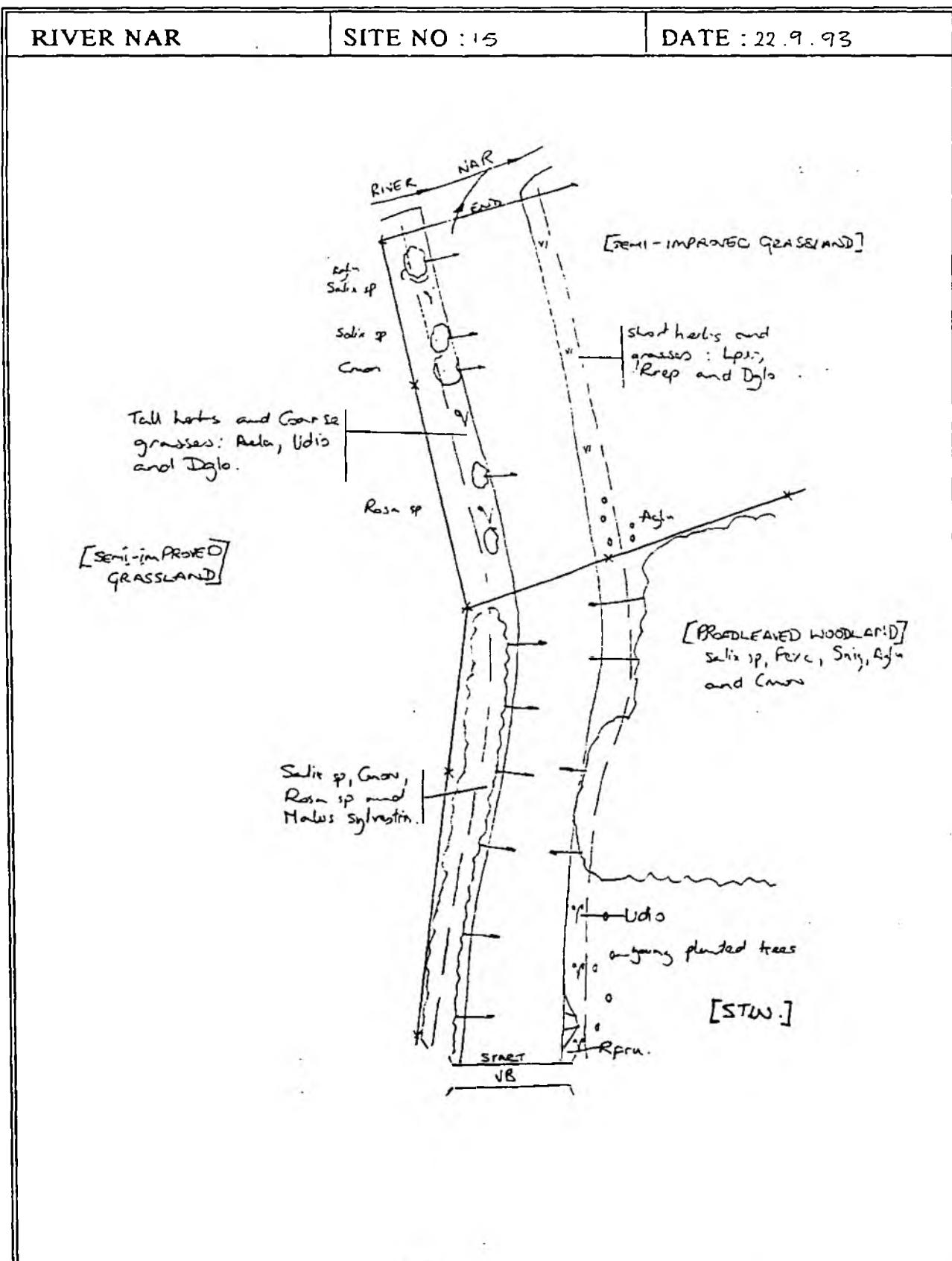
DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input type="checkbox"/>	0.5-1.0 <input type="checkbox"/>	>1.0 <input type="checkbox"/>
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SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input type="checkbox"/>
	Sand <input type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP



Habitat Features

RIVER ... NAR

SITE 15

SURVEYOR J. JONES

NCR top TF 892 172 NCR bottom TF 892 175 Date + time 22.9.93 11.30am

LENGTH SURVEYED

PHYSICAL RECORDS

10 m

1 = <5% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m)

<1 (3) 1-5 () 5-10 () 10-20 () >20 ()

DEPTH (m)

<0.25 (3) 0.25-0.5 () 0.5-1.0 () >1.0 ()

SUBSTRATES

Bed rock ()	Boulders ()	Cobbles ()	Pebbles ()	Gravel (2)
Sand ()	Silt/mud (3)	Clay ()	Peat ()	

HABITATS

Pools ()	Slacks (3)	Riffles ()	Fast, deep water ()
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SHADING Left Bank: None ()

Slight () Moderate () Dense (3)

Right Bank: None ()

Slight (3) Moderate () Dense ()

100 m

WIDTH (m)

<1 (2) 1-5 (3) 5-10 () 10-20 () >20 ()

DEPTH (m)

<0.25 (3) 0.25-0.5 () 0.5-1.0 () >1.0 ()

SUBSTRATES

Bed rock ()	Boulders ()	Cobbles ()	Pebbles ()	Gravel (2)
Sand ()	Silt/mud (3)	Clay ()	Peat ()	

HABITATS

Pools (1)	Slacks (3)	Riffles ()	Fast, deep water ()
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SHADING Left Bank: None ()

Slight () Moderate () Dense (3)

Right Bank: None ()

Slight () Moderate (2) Dense ()

500 m

WIDTH (m)

<1 (1) 1-5 (3) 5-10 () 10-20 () >20 ()

DEPTH (m)

<0.25 (3) 0.25-0.5 () 0.5-1.0 () >1.0 ()

SUBSTRATES

Bed rock ()	Boulders ()	Cobbles ()	Pebbles ()	Gravel (1)
Sand ()	Silt/mud (3)	Clay (2)	Peat ()	

HABITATS

Pools (1)	Slacks (3)	Riffles (2)	Fast, deep water ()
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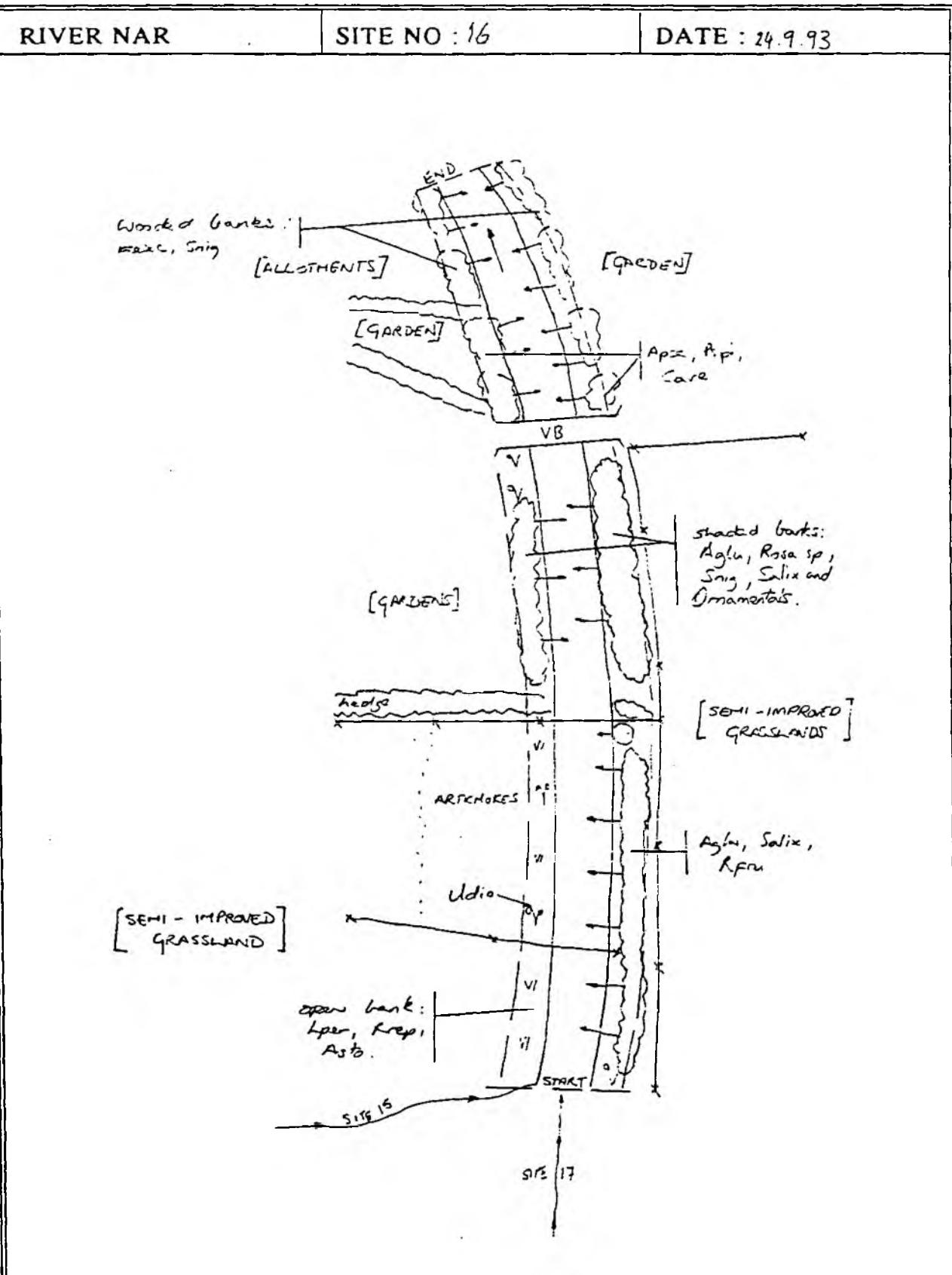
SHADING Left Bank: None (1)

Slight (2) Moderate (2) Dense (3)

Right Bank: None (3)

Slight (2) Moderate (2) Dense (3)

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP



Habitat Features

RIVER...NAR..... SITE.....16..... SURVEYOR...J. JAMES....
 NGR top...TP..892...175..... NGR bottom...TF..888..174.... Date + time 24.9.93..10am

LENGTH SURVEYED

PHYSICAL RECORDS

10 m = 1 = <5% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m)	<1 <input checked="" type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
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DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input type="checkbox"/>	0.5-1.0 <input type="checkbox"/>	>1.0 <input type="checkbox"/>
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SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input checked="" type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input checked="" type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input type="checkbox"/>

100 m =

WIDTH (m)	<1 <input checked="" type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
-----------	--	---	-------------------------------	--------------------------------	------------------------------

DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input type="checkbox"/>	0.5-1.0 <input type="checkbox"/>	>1.0 <input type="checkbox"/>
-----------	---	-----------------------------------	----------------------------------	-------------------------------

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input checked="" type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input checked="" type="checkbox"/>	Fast, deep water <input type="checkbox"/>
----------	--------------------------------	--	---	---

SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input checked="" type="checkbox"/>

500 m =

WIDTH (m)	<1 <input checked="" type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
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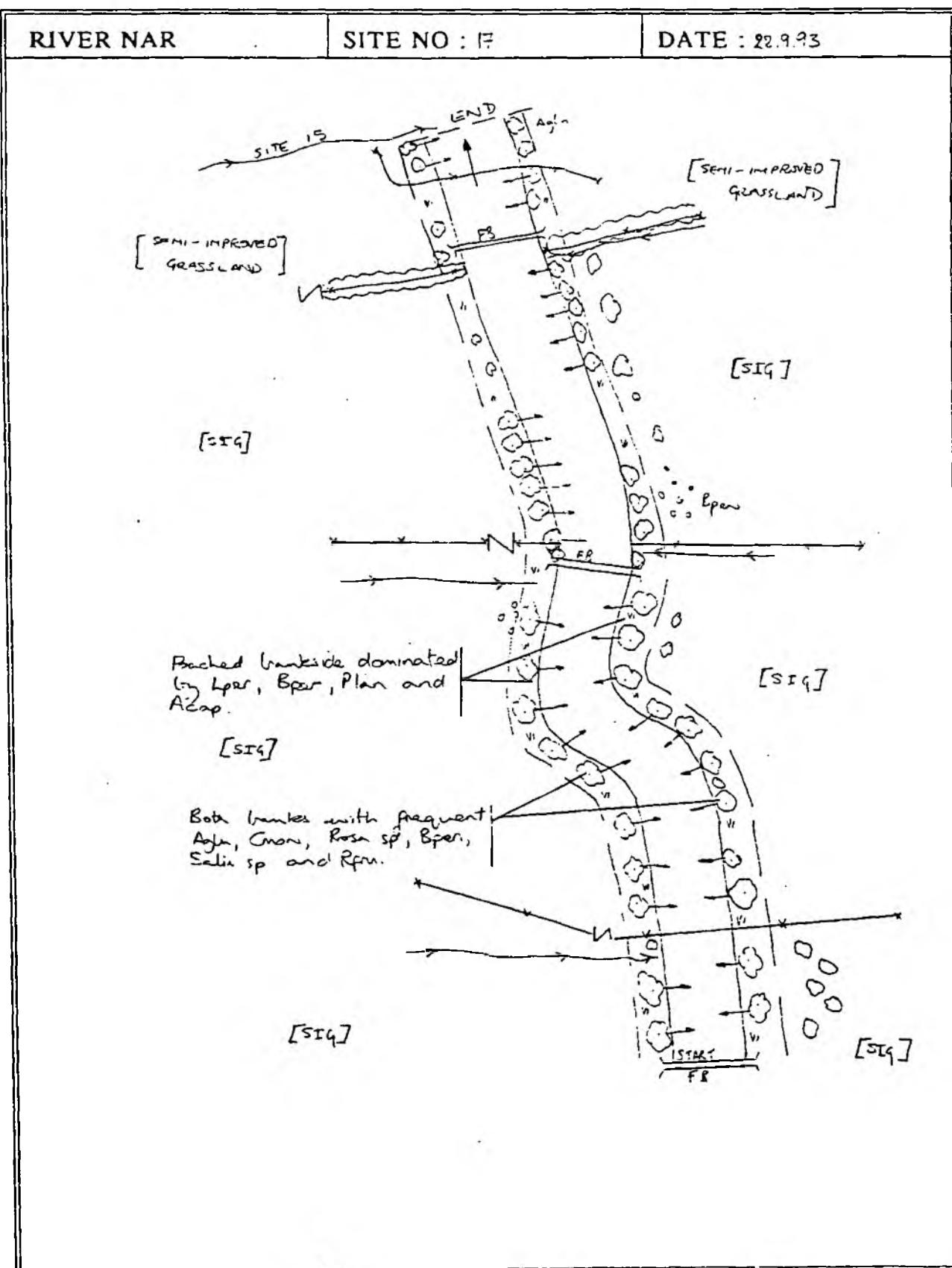
DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input checked="" type="checkbox"/>	0.5-1.0 <input type="checkbox"/>	>1.0 <input type="checkbox"/>
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SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input checked="" type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input checked="" type="checkbox"/>
Right Bank:	None <input type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input checked="" type="checkbox"/>	Dense <input checked="" type="checkbox"/>

AQUATIC MACROPHYTE SURVEY - SKETCH HABITAT MAP



Habitat Features

RIVER ... NAR SITE 17 SURVEYOR J. James
 NGR top. TF. 893.176 NGR bottom. TF. 892.175 Date + time 22.9.93. 2pm

LENGTH SURVEYED

PHYSICAL RECORDS

10 m = 1 = <5% of total, 2 = 5-25% of total, 3 = >25% of total

WIDTH (m)	<1 <input type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
-----------	-----------------------------	---	-------------------------------	--------------------------------	------------------------------

DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input checked="" type="checkbox"/>	0.5-1.0 <input type="checkbox"/>	>1.0 <input type="checkbox"/>
-----------	---	--	----------------------------------	-------------------------------

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
----------	--------------------------------	--	----------------------------------	---

SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

100 m

WIDTH (m)	<1 <input type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
-----------	-----------------------------	---	-------------------------------	--------------------------------	------------------------------

DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input checked="" type="checkbox"/>	0.5-1.0 <input type="checkbox"/>	>1.0 <input type="checkbox"/>
-----------	---	--	----------------------------------	-------------------------------

SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

500 m

WIDTH (m)	<1 <input type="checkbox"/>	1-5 <input checked="" type="checkbox"/>	5-10 <input type="checkbox"/>	10-20 <input type="checkbox"/>	>20 <input type="checkbox"/>
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DEPTH (m)	<0.25 <input checked="" type="checkbox"/>	0.25-0.5 <input checked="" type="checkbox"/>	0.5-1.0 <input type="checkbox"/>	>1.0 <input type="checkbox"/>
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SUBSTRATES	Bed rock <input type="checkbox"/>	Boulders <input type="checkbox"/>	Cobbles <input type="checkbox"/>	Pebbles <input type="checkbox"/>	Gravel <input checked="" type="checkbox"/>
	Sand <input checked="" type="checkbox"/>	Silt/mud <input checked="" type="checkbox"/>	Clay <input type="checkbox"/>	Peat <input type="checkbox"/>	

HABITATS	Pools <input checked="" type="checkbox"/>	Slacks <input checked="" type="checkbox"/>	Riffles <input type="checkbox"/>	Fast, deep water <input type="checkbox"/>
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SHADING Left Bank:	None <input checked="" type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>
Right Bank:	None <input checked="" type="checkbox"/>	Slight <input checked="" type="checkbox"/>	Moderate <input type="checkbox"/>	Dense <input type="checkbox"/>

APPENDIX 4

PHOTOGRAPHIC SLIDES

MANAGEMENT AND CONTACTS:

The Environment Agency delivers a service to its customers, with the emphasis on authority and accountability at the most local level possible. It aims to be cost-effective and efficient and to offer the best service and value for money.

Head Office is responsible for overall policy and relationships with national bodies including government.

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The 24-hour emergency hotline number
for reporting all environmental incidents
relating to air, land and water

ENVIRONMENT AGENCY
EMERGENCY HOTLINE
0800 80 70 60



ENVIRONMENT
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