THE VEGETATION OF IRISH LAKES

1984

BY HESTER HEUFF

APPENDIX

CONTENTS

TABLE I

List of Lakes, including the ecological division in which it occurs

TABLE 2 - PHYSICO-CHEMICAL PARAMETERS AND THEIR METHODS OF ANALYSIS

Parameter	Unit	Method of Analysis
Conductivity	$umho.cm^{-2}$	Wheatstone bridge (field instrument).
Alkalinity	$meq.l^{-1}$	Mackareth (1963)
Transparency	m	Secchi disk
Ca-hardness	$mg.l^{-1}CaCO_3$	E.D.T.A. titration
Total hardness	$mg.l^{-1}CaCO_3$	E.D.T.A. titration
Cl^-	$mg.l^{-1}Cl^-$	Mohr titration
Na^+	$mg.l^{-1}Na^+$	Atomic Absorption Spectrophotometry
K^+	$mg.l^{-1}K^+$	Atomic Absorption Spectrophotometry
Ca^{2+}	$mg.l^{-1}Ca^{2+}$	Atomic Absorption Spectrophotometry
Mg^{2+}	$mg.l^{-1}Mg^{2+}$	Atomic Absorption Spectrophotometry
Total P	$mg.P.l^{-1}$	Digestion + Molybdenum blue (unreliable)

Table 6 Lakes classified according to the phytoplankton. For abundance scale and species occurring less than three times see Table 6A.

Type of lake	oligo-trophic species poor					oligo- to mesotrophic species rich										meso- to eutrophic species rich																	species poor
Name of lake	Cummilingaun	Cummilingaun	Glendalough Upr.	Tay	Gregduff	Ergoon	Caragh	Nafealle	Leagh	Kylemore	Pollacappul	Mullaghderg	Bunduff	Ygnaveun	Beaglaunmore	Achibbon	Ballyallia	Belle	George	Glenade	Glenade	Owel	Gara	Ennit	Glin	Ballyteige	Corrib	Gur	Granstown	Round	Carra	Doon	Ballysoe
Algal taxon / lake no.	13a	13b	22	39	14	17	9	32	40	28	34	30	7	41	5	1	2	6	20	21a	21b	33	19	18	23	4	12	26	25	35	10	15	3
Peridinium	4	4																2	3							3							
Closterium	1			1		2	3						2				1	2					1										
Mougeotia >12<16µ						4	3						4														3						
Rhizosolenia							3		3											1													
Spondylosium							3	2	2					2																			
Staurodesmus	1					2		2	3	3	3																						
Xanthidium						2		3	3	3	3	2						2															
Spirogyra				1	2			3		2	2	2			2		2										3						
Oedogonium				1		3	3	3		2	2	2			2												3			1			
Arthrodesmus						2	3		3	3	3	3	1	2								1											
Botryococcus braunii						2	1	2	3	3	3	3	3	4	3	3		1	2		2	1					1	2				3	
Tabellaria		2	2		2	3	3	3	3	3	3	2	2	4	1					2	4			2			2						
Cosmarium			1	1		3	3	3	3		3	3	3	2			1	3		1	2		2	1			2	4			2	3	
Staurastrum						3	2	3	3	3	3	3	3	4			2	4								3	1	3					
Coelosphaerium							1		3	3	3	3	3	3		3	3	3	1	2	2	3	3							3	3		
Eunotia				4	2	2	3	3									3						3	2					2	3			
Merismopedia					1	3	1	3	2			3		2								3	3	2	2		3				2		
Pyrrophyta					3	1	1	2	2	3	2	3					1				1	1		2					2	2	4		4
Dinobryon					4	3	1	2	3	3	3		1	3	3		2		3	3		4	2	3	4	3	3		3	3			
Asterionella formosa							3		3	3	3					3	3	3	3	3				3		3				3			
Pediastrum							1	2				3	3	4			2	2	1	2	2		3	2	2	3	3	3			2		
Ceratium hirundinella									2	3	3	3	3		3	3	2	3	3	3	2	4		2		3	2	2	4	2	3	3	
Anabaena >4<8µ									3		2	2	3	3	1	4	1	3	2		3		2	1	3		2			4			
Microcystis									3	2	3					3	3	4	2	1		3	4	4	3	3	2	4	3				
Pandorina																3	3		3	2	3	2	2	3	2	3			4	3			
Fragilaria crotonensis	1																3	3		3	3	4	2										
Synedra					4			3					3				2	3		3				2				4					
Cymbella					2												1	2					1								2		
Gyrosigma																	1	2			2		1	1	1								
Melosira																	4			1	2					3							
Sphaerocystis								2							3		3				2		3		2		3			2			
Volvox					3										3			4	2								2			3		3	
Gomphosphaeria								3				3						2	2			4		3			3		3		2		
Chroococcus >8<16µ, not striated													3						4			3	3										
Eudorina												2							3	2	2												
Anabaena >8µ																4				2	2									4			
Scenedesmus												3	2	2				2					3		1				2				
Mallomonas				4			3		3		2				3				1		1						3						
Oscillatoria >4<8µ							1			2					2					2	2								2				
Surirella						1	2		2														1		1								
Oocystis								2		3	3						1					1						2					
Kirchneriella						1								2			1						3		1	3							
Ankistrodesmus falcatus									3			2			1				1								2						
Aphanocapsa >2<4µ								3	3				2									3					2	2					
Navicula					2			3						2								2						3			2		
Dictyosphaerium							3		3					3												3		3					
Asterococcus					2																						1					2	
Chroococcus >6<8µ not striated												3													1		3						
Fragillaria (not crot)					3																						3			3			
Oscillatoria >8<12µ					2			3									1																
Zygnema >24µ								3				3															1						

TABLE 6A - Phytoplankton taxa recorded less than three times

TAXON	ABUNDANCE (LAKE NUMBER)
Anabaena<4μ	4(35)
Amphora	1(18)
Aphanocapsa>2≤2μ	2(30), 3(41)
Aphanocapsa <1μ	2(5)
Bambusina	3(32)
Batrachospermum	1(9), 1(39)
Bulbochaete	1(9), 1(39)
Ceratium cornutum	1(34)
Chroococcus minutus	3(10)
Chroococcus sheets striated >8≤16μ	1(18)
Chroococcus sheets striated >16≤32μ	1(7)
Chroococcus sheets not striated>4≤6μ	1(17), 3(32)
Chrysophyta	1(11), 1(2)
Coelastrum	1(23)
Cosmocladium	1(9)
Crucigenia tetrapedia	1(40)
Cyclotella	2(21b) 1(33)
Cymatopleura species	
Cymatopleura elliptica var. hibernica	1(24)
Dactylococcopsis	1(12)
Dinobryon bavaricum	3(4)
Epithemia	3(26)
Euastrum	2(1) 1(17)
Eucapsis alpina var. minor	3(9)
Euglena	4(3)
Gloeocapsa	2(5), 2(30)
Gloeotrichia	1(23)
Gomphonema	2(6)
Gonatozygon	1(13a)
Hormidium	3(15), 3(41)
Hyalotheca	3(32)
Micrasterias	1(17)
Microspora <8μ	2(32)
Microspora >24μ	1(17)
Mougeotia <8μ	2(7), 2(23)
Mougeotia >16≤24μ	1(39)

TABLE 6A: contd.

TAXON	ABUNDANCE (LAKE NUMBER)
Aphanothece	1(12)
Cruciginea species	1(25)
Netrium	1(17)
Nostoc	3(21a), 2(32)
Oedogonium punctatostriatum	2(32)
Oscillatoria <2μ	1(13a)
Oscillatoria >12≤16μ	2(35)
Pectodictyon cubicum	2(3)
Phormidium <2μ	3(32)
Pinnularia	1(17), 2(32)
Pleurotaenium	1(13b), 2(40)
Rhodochorton violaceum	1(9)
Schizothrix affinis	4(9)
Sphaerozosma	2(30)
Stephanodiscus	3(11), 3(24)
Synechococcus	1(33)
Synura	2(32)
Tetracyclus lacustris	3(32)
Tribonema	3(30), 3(41)
Ulothrix zonata	1(9)
Zygnema >12≤16μ	2(14)
Zygnema >16≤24μ	2(2), 1(5)

Abundance scale

1 = rare (seen up to 3 times)

2 = occasional

3 = common

4 = dominant species

5 = bloom

Type of lake		Nitella lakes			Najas lakes							Lobelia lakes						Charetum asperae lakes									Elodea lakes				Marl lakes				
Hardness of water		soft water			soft or hard water							soft water						hard water									medium to hard water				hard water				
Nutrient status		oligotrophic			oligo- to mesotrophic							oligotrophic						meso- to eutrophic									meso- to eutrophic				meso- to oligotrophic				
Name of lake		Screen A	Screen B	Cummingyam	Gresduff	Mullaghdelag	Nafealile	Abillon	Caragh	Glenade	Kylemore	Pollacappul	Beaghcauneen	Veagh	Tay	Yganavan	Eagoose	Belle	Doon	Carrickaport	Inchiquin	Bunduff	Gur	Hackett	Corrib	Ballyallia	Gowna	Ballydeige	Glin	Rowand	Owel	George	Carra	Ennit	Muckanagh
Association or Community	Subunit / lake no.	36	37	13	14	30	32	1	9	21	28	34	5	40	39	41	17	6	15	11	27	7	26	31	12	2	24	4	23	35	33	20	10	18	29
Com. of Nitella flexilis or Nitella translucens	XXI	O	O	O																				O											
Com. of Najas flexilis and Potamogeton berchtoldii	XIX				O	O	O	O	O	O	O																								
Eriocaulo-Lobelietum isoetetosum	XV b							O	O		O	O	O																						
Eriocaulo-Lobelietum	XV a					O	O	O				O	O	O																					
Com. of Isoetes lacustris	XVII								O	O			O	O	O	O	O	O																	
Charetum asperae	XXV																	O	O	O	O	O	O	O	O	O									
Com. of Elodea canadensis and Lemna trisulca	XXVI																	O								O	O	O	O	O					
Com. of Chara contraria	XXXI																								O						O	O	O		
Com. of Chara desmacantha	XXX																															O	O	O	O
Com. of Chara aculeolata	XXXII																														O			O	
Sociation of Chara fragilis	XXIX																	O																O	
Com. of Potamogeton natans	XXIV																	O	O																
Sociation of Nymphaea alba	XXII																		O																
Com. of Juncus bulbosus f. fluitans	XVI						O																												
Sparganietum angustifolii	XVIII															O																			
Eriocaulo-Lobelietum, subass. with Eleocharis multic. and Utricularia interm.	XV c																O																		
Com. of Potamogeton praelongus	XX																			O															
Com. of Polygonum amphibium v. aquat.	XXIII																							O											
Com. of Chara and Juncus bulbosus f. fluitans	XIV																															O			

Table 7:
Lakes classified according to the aquatic vegetation types.

Fig 1 : Location of the lakes, lake numbers are listed in Table 1.

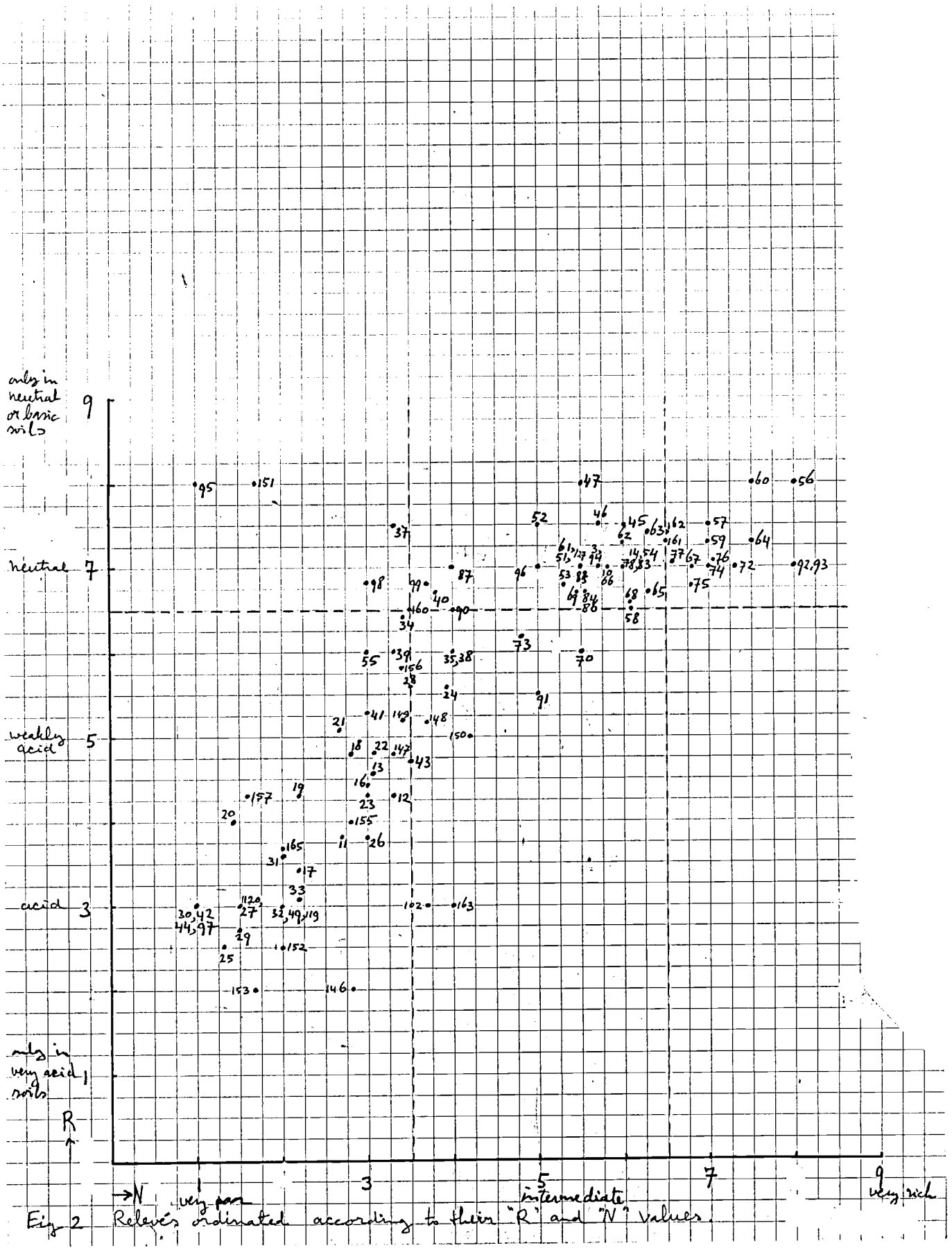
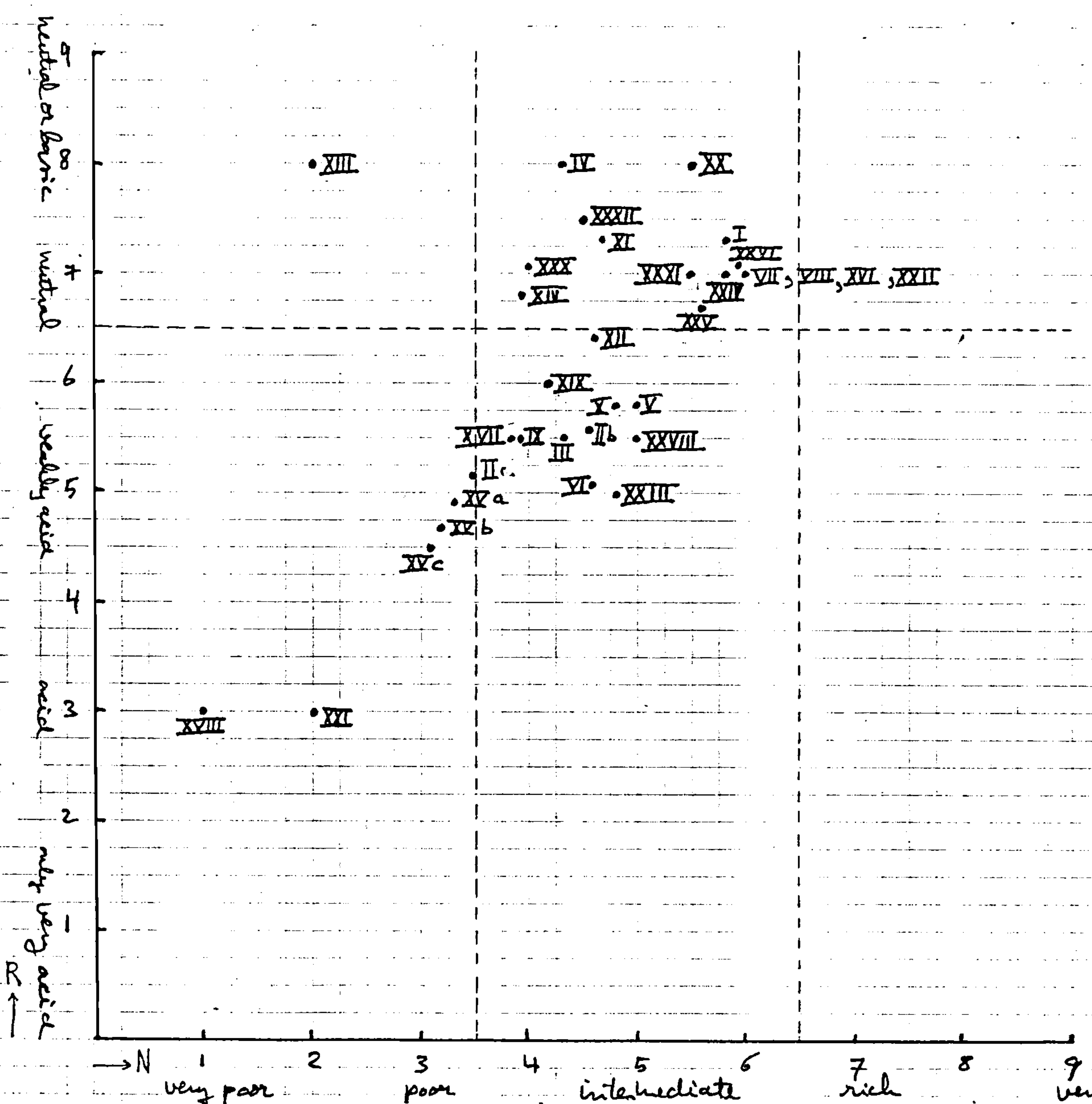


Fig 2 Relevés ordinated according to their "R" and "N" values.



Vegetation Subunits

- I Com. of Oenanthe aquatica and Apium inundatum
- II Carecetum rostratae
- III Com. of Carex lasiocarpa
- IV Cladietum marisci
- V Com. of Eleocharis palustris
- VI Com. of Berula erecta and Scirpus lacustris
- VII Typhetum latifoliae
- VIII Typhetum angustifoliae
- IX Phragmitetum australis
- X Scirpo-Phragmitetum
- XI Scirpetum lacustris
- XII Com. of Littorella uniflora and Scirpus lacustris
- XIII Com. of Pot. coloratus & J. bulb. f. fluitans
- XIV Com. of Chara & J. bulb. f. fluitans
- XV a, b, c Eriocaulo-Lobelietum
- XVI Com. of Juncus bulbosus f. fluitans
- XVII Com. of Isoetes lacustris
- XVIII Sparganietum angustifolii
- XIX Com. of Najas flexilis and Potamogeton berchtoldii
- XX Com. of Potamogeton praelongus
- XXI Com. of Nitella flexilis & N. translucens
- XXII Sociation of Nymphaea alba
- XXIII Com. of Polygonum amphibium
- XXIV Com. of Potamogeton natans
- XXV Charetum asperae
- XXVI Com. of Elodea canadensis & Lemna trisulca
- XXVIII Com. of Chara fragilis & Tolypella glom.
- XXX Com. of Chara desmacantha
- XXXI Com. of Chara contraria
- XXXII Com. of Chara aculeolata

Fig. 3 Vegetation Subunits ordinated according to their "R" and "N" values.

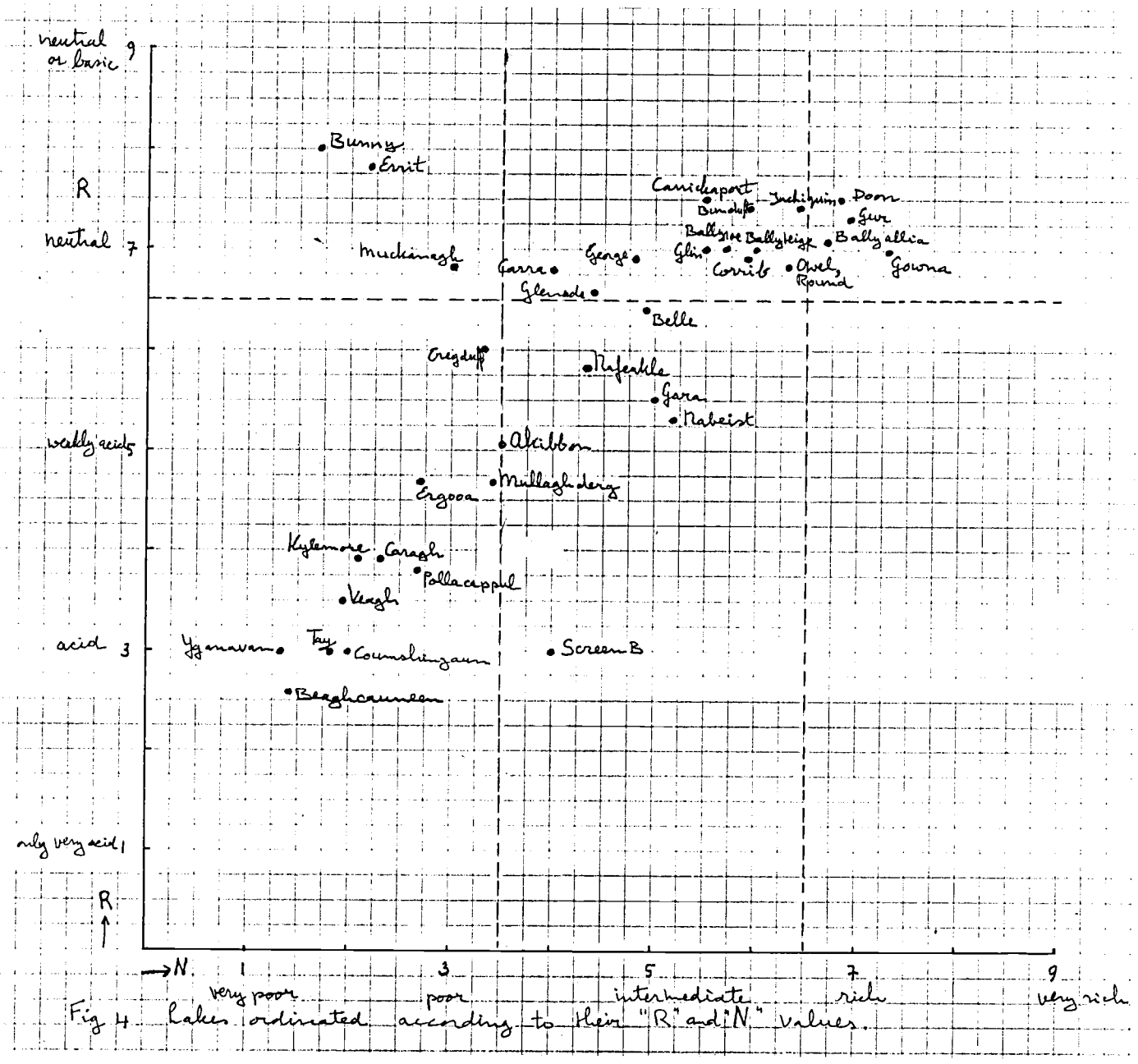
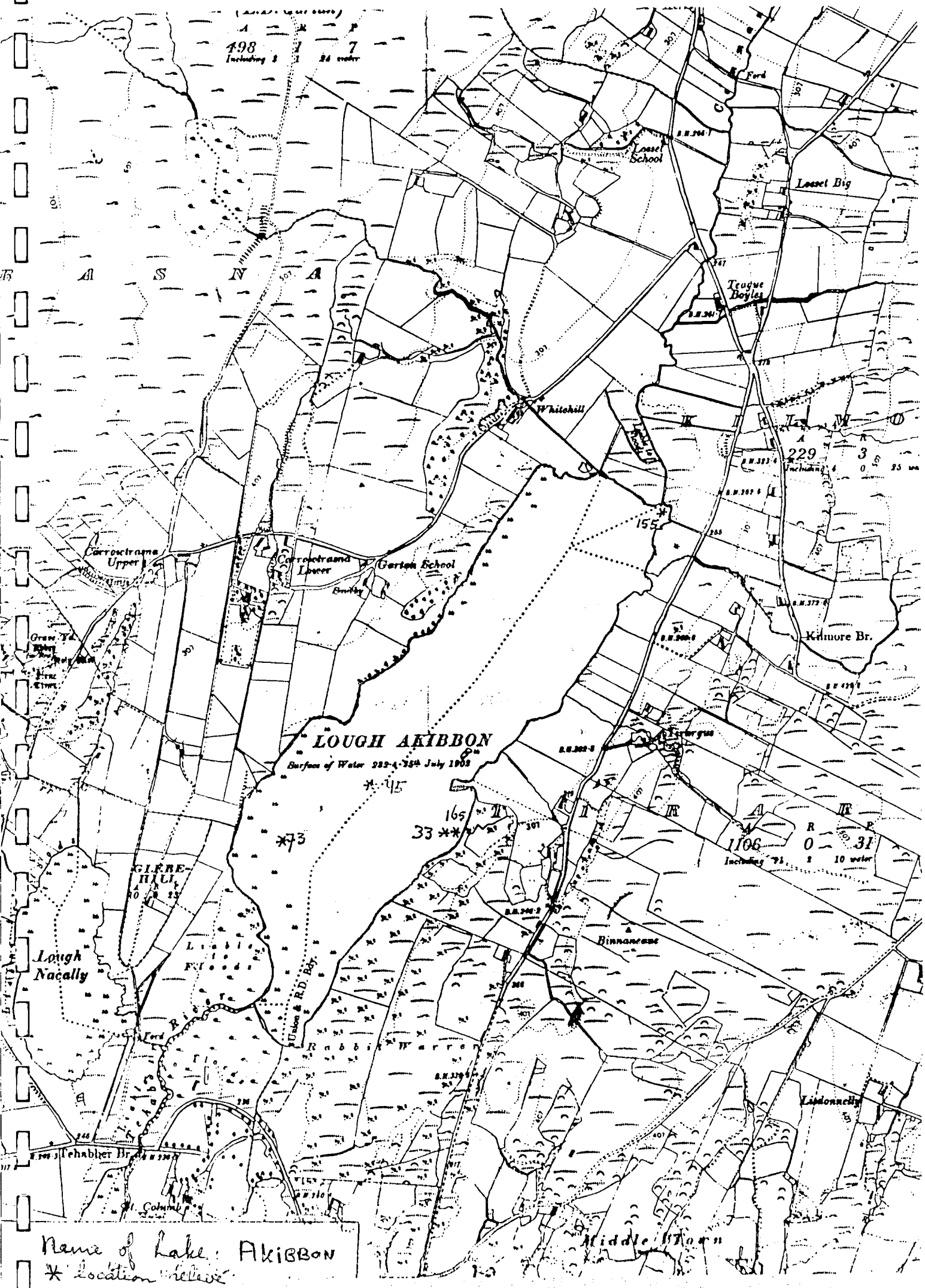


Fig 4. Lakes ordinated according to their "R" and "N" values.


LOUGH AKIBBON
Surface of Water 933-4-35th July 1909
Lough Nacally
Gerton School
Carrowtrasna Upper
Carrowtrasna Lower
Whitehill
Tague Boyle
Lassel School
Lassel Big
Kilmore Br.
Binnanreese
Lisdonnell
Tehabber Br.
Middle
Name of Lake: AKIBBON
* Location believed

Name of Lake: Akibbon Lake No: 1

General Information

County: Donegal
O.S. ½ inch sheet no: 1
O.S. 6 inch sheet no: 44
Grid Ref: C 068 183
Sampling Date: 22-9-77
Drainage Order of inflowing stream: 2

Altitude: 70.8m
Geology: Schist & Gneiss
Ecological division: 2
Area: 40 ha
Max. Length: 1.5 km

Physico - chemical information (for units see Table 2).

Conductivity:	170	Cl-	10.7	Max depth: 3 m
Alkalinity:	0.06	Na^+	7.5	Transparency: 3 m
Ca-hardness:	23	K^+	0.14	Max vegetated depth: 3m
Total hardness:	40	Ca^2	4.3	Nature of bottom: Soft mud,
Total P:	0.79	Mg^{2+}	9.7	rocky on exposed shores.

Site description

Medium sized lake with muddy bottom and soft water. Sparse emergent fringe of Carex rostrata, Phragmites and Scirpus. Submergents include Najas flexilis and Pilularia globulifera. This lake is very rich in Potamogeton species. The West shore is relatively sheltered and well vegetated and the East shore is exposed with sparse vegetation. The lake shows good diversity. It has sheltered and exposed shores and communities in silty or sandy substratum.

Emergent zones: Going from the shore lakeward the following plants dominate: Carex rostrata (116), Phragmites australis (149) and Scirpus lacustris (156), area dominated by Carex lasticarpa present (164).

Floating leaf zone: Patches of Nuphar lutea and Nymphea alba occur outside the emergent zone in sheltered areas. Potamogeton natans occurs only within the emergent fringe.

Submergent zone: Littorella (155) dominates on exposed stony shores, in shallow water. Najas flexilis occurs at 1.70 m in an area dominated by Sparganium emersum (73) and at 2.30 m in an area dominated by Chara fragilis (45). Isoetes lacustris is dominant, with Pilularia globulifera present also (33). These vegetations occur in patches and not in distinct zones. An area of Pilularia (65) was also found in shallow water.

Dominant planktonic species: Anabaena 7.5µ, 10µ. Lot of zooplankton present.

Ellenberg values:

		L	T	K	F	R	N
Relevé no:	33	7.5	5.4	2	10.5	3.1	2.2
	45	7.0	4.5	5	12	7.5	6
	73	6.9	4.5	3.8	11.7	6.2	4.8
	149	7.3	4.8	2.6	10.3	5.2	3.4
	155	7.3	4.5	2.3	10.8	4	2.8
	156	7.3	4.3	3.2	11	5.8	3.4
	165	7.5	4.7	2	10.5	3.7	2
Lough Akibbon		7.3	4.7	3	11	5.1	3.5

Relevé details

Relevé No.33

Location: Open water
Size: 6 x 4m, Slope: none, Exposure: exposed, Water depth: 2.0m
Soil: sandy silt.

	% Cover	Height	Dominant species
Submergents	70	-	Isoetes lacustris
Total	70	-	Isoetes lacustris

Classification: Eriocaulo - Lobelietum Isoetetosum (Subunit XVb)
Remarks: Pilularia globulifera present with cover abundance value of 3. Up to 0.50m depth shore is rocky, Littorella uniflora is dominant here, with a few plants of Lobelia dortmanna and Myriophyllum alterniflorum.

Relevé No. 45

Location: open water
Size: 10 x 10m, Slope: none, Exposure: sheltered, Water depth: 2.30m.
Soil: very soft silt.

	% Cover	Height	Dominant species
Submergents	100	-	Chara fragilis
Total	100	-	Chara fragilis

Classification: Community of Najas flexilis and Potamogeton berchtoldii (Subunit XIX).

Relevé No. 73

Location: Open water
Size: 8 x 5m, Slope: none, Exposure: sheltered, Water depth: 1.70m.
Soil: very soft silt.

	% Cover	Height (m)	Dominant species
Submergents	40	1.20	Sparganium emersum
Total	40	1.20	Sparganium emersum

Classification: Community of Najas flexilis and Potamogeton berchtoldii (Subunit XIX)
Remarks: This relevé sheltered by broad band of Scirpus lacustris. On lakeward side of the Scirpus bed occur small areas of Nuphar lutea and Nymphea alba. A cloud of mostly Mougeotia (35μ) covers the vegetation.

Relevé No. 116

Location: Carex rostrata fringe
Size: 1 x 1m, Slope: none, Exposure: sheltered, Water depth: 0.10m
Soil: mud

	% Cover	Height (m)	Dominant species
Emergents	30	0.30	Carex rostrata
Total	30	0.30	Carex rostrata

Classification: Carecetum rostratae, new subassociation with elements of the Littorellion (Subunit IIa).

Relevé No. 149

Location: Phragmites fringe
Size: 1 x 1m, Slope: none, Exposure: exposed, Water depth: 0.50m
Soil: mud

	% Cover	Height (m)	Dominant Species
Submergents	65	0.05	Littorella uniflora
Floating leaf	24	0.50	Potamogeton natans
Emergents	1	2	Phragmites australis
Total	90	2	Littorella uniflora

Classification: Eriocaulo - Lobelietum (Subunit XVa)

Remarks: Towards the shore Carex rostrata becomes more dominant and lakeward Scirpus lacustris takes over. Patches of Nuphar lutea occur within the Scirpus.

Relevé No. 155

Location: Exposed stony shore
Size: 1 x 1m, Slope: gentle, Exposure: exposed, Water depth: 0.50m
Soil: mud or sand, stones

	% Cover	Height (m)	Dominant species
Submergents	15	0.05m	Littorella uniflora
Emergents	1	-	Scirpus lacustris
Total	15	-	Littorella uniflora

Classification: Eriocaulo - Lobelietum (Subunit XVa)
Remarks: Emergent fringe on land side of this relevé.

Relevé No. 156

Location: Scirpus fringe
Size: 1 x 1m, Slope: none, Exposure: sheltered, Water depth: 0.70m
Soil: mud

	% Cover	Height (m)	Dominant species
Submergents	80	0.05	Lobelia dortmanna and Potamogeton gramineus
Floating leaf	1	0.07	Nuphar lutea
Emergents	5	1.50	Scirpus lacustris
Total	80	1.50	Lobelia dortmanna and Potamogeton gramineus

Classification: Eriocaulo-Lobelietum

Relevé No 164

Location: Carex lasiocarpa fringe
Size: 1 x 1m, Slope: none, Exposure: sheltered, Water Depth: 0.15m
Soil: mud

	% Cover	Height (m)	Dominant species
Floating leaf	1	0.15	Potamogeton natans
Emergents	25	0.40	Carex lasiocarpa
Total	25	0.40	Carex lasiocarpa

Classification: Phragmitetum australis (Subunit IX)

Relevé No. 165

Location: open water

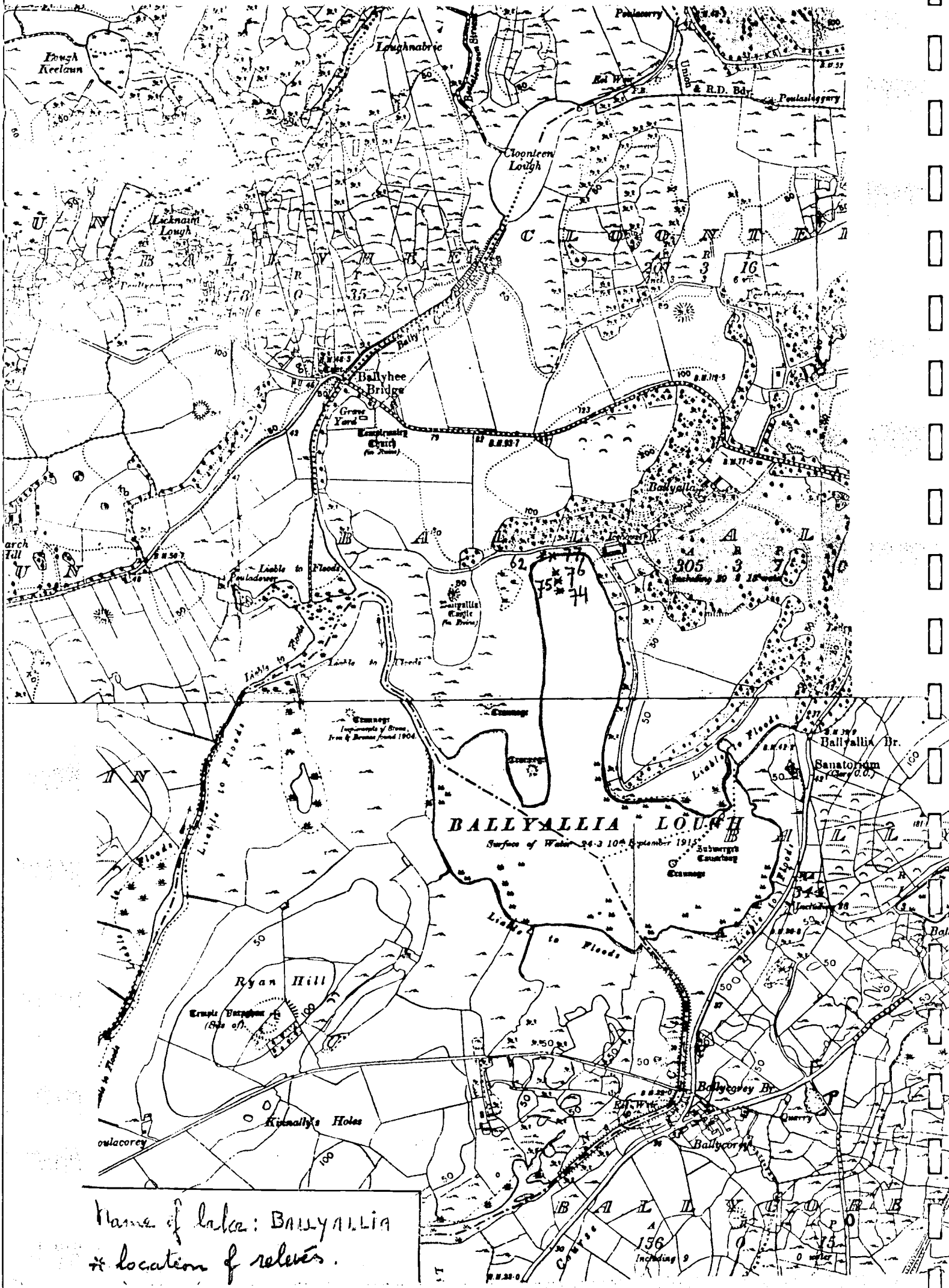
Size: 1 x 1m, Slope: none, Exposure: sheltered, Water depth: 1m

Soil: silt or rocks

	% Cover	Height (m)	Dominant species
Submergents	25	0.05	Littorella uniflora and Pilularia globulifera
Total	25	0.05	Littorella uniflora and Pilularia globulifera

Classification: Eriocaulo - Lobelietum

Remarks: This vegetation grows in a patch of 5 x 2m in size.



Name of lake: BALLYALLIA
+ location of relevés.

Name of Lake: Ballyallia Lake No. 2

General Information

County : Clare
O.S. ½ inch sheet no: 17
O.S. 6 inch sheet no: 25,33
Grid Ref: R 344 809
Sampling date : 28-8-78
Drainage order of inflowing stream : 36 (excluding Moyree R.)

Altitude : 7.4m
Geology : Limestone
Ecological Division : 4
Area: 57 ha
Max Length : 0.9 km

Physico-chemical information (for units see Table 2)

Conductivity:	345	Cl^-	2.84	Max depth	7.80m
Alkalinity :	0.35	Na^+	11.1	Transparency	3.95m
Ca-hardness :	84	K^+	0.92	Max vegetated depth	5m
Total hardness	97	Ca^{2+}	28.4	Nature of bottom: muddy sand;	
Total P :	0.104	Mg^{2+}	3.8	rocky in shallows.	

Site description and comments

A small eutrophic calcareous lake with relatively clear water. The area investigated was the narrow steep sided bay which projects to the north. This area is relatively sheltered and probably subject to frequent stratification.

Emergent zone: Scirpus lacustris stands (77)

Floating leaf zone: Nuphar lutea

Submergents: In shallow water landward of Scirpus fringe Littorella dominated vegetation (62), at 1.50m depth Elodea canadensis and Potamogeton friesii dominated vegetation (76). Elodea dominates at 2m depth also (75), at 3m there is a band of submers Nuphar lutea on bare soil (74) and Ceratophyllum demersum dominates in deeper water.

Dominant planktonic species: Melosira sp.

Ellenberg Values		L	T	K	F	R	N
Relevé No:	62	7.1	6.0	3.2	11.0	7.3	6.0
	74	7.0	6.0	4.4	11.5	7.0	7.0
	75	6.2	5.6	4.7	11.3	6.8	6.8
	76	6.0	6.3	5.0	11.5	7.1	7.1
	77	6.8	5.5	3.8	11.3	7.1	6.6
Lough Ballyallia		6.6	5.9	4.2	11.3	7.1	6.7

Relevé Details

Relevé No. 62

Location: Rocky shore landward of reeds
Size: 2 x 1m, Slope: steep, Exposure: exposed, Water depth: 0.50m
Soil: rocky

	% Cover	Height (m)	Dominant species
Submergents	20	-	Littorella uniflora
Emergents	5	1	Scirpus lacustris
			Littorela uniflora
Total	20	-	Littorella uniflora

Classification: Charetum asperae (Subunit XXV)
Remarks: Cover of 100% of Cladophora

Relevé No. 74

Location: Open water
Size: 5 x 5m, Slope: gentle, Exposure: sheltered, Water depth: 3m
Soil: muddy sand

	% Cover	Height (m)	Dominant species
Submergents	60	3	Nuphar lutea
Total	60	3	Nuphar lutea

Classification: Community of Elodea canadensis and Lemna trisulca (Subunit XXVI)
Remarks: At upper edge of this vegetation type Elodea canadensis, becomes more dominant, in deeper water Ceratophyllum demersum dominates.

Relevé No. 75

Location: Open water
Size: 5 x 3m, Slope: steep, Exposure: sheltered, Water depth: 2m
Soil: muddy sand

	% Cover	Height (m)	Dominant species
Submergents	100	-	Elodea canadensis
Total	100	-	Elodea canadensis

Classification: Community of Elodea canadensis and Lemna trisulca (Subunit XXVI)
Remarks: Main alga: Oscillatoria splendida

Relevé No. 76

Location: open water
Size: 10 x 2m, Slope: steep, Exposure: sheltered, Water depth: 1.50m
Soil: muddy sand

	% Cover	Height (m)	Dominant species
Submergents	100	-	Elodea canadensis and Potamogeton friesii
Total	100	-	Elodea canadensis and Potamogeton friesii

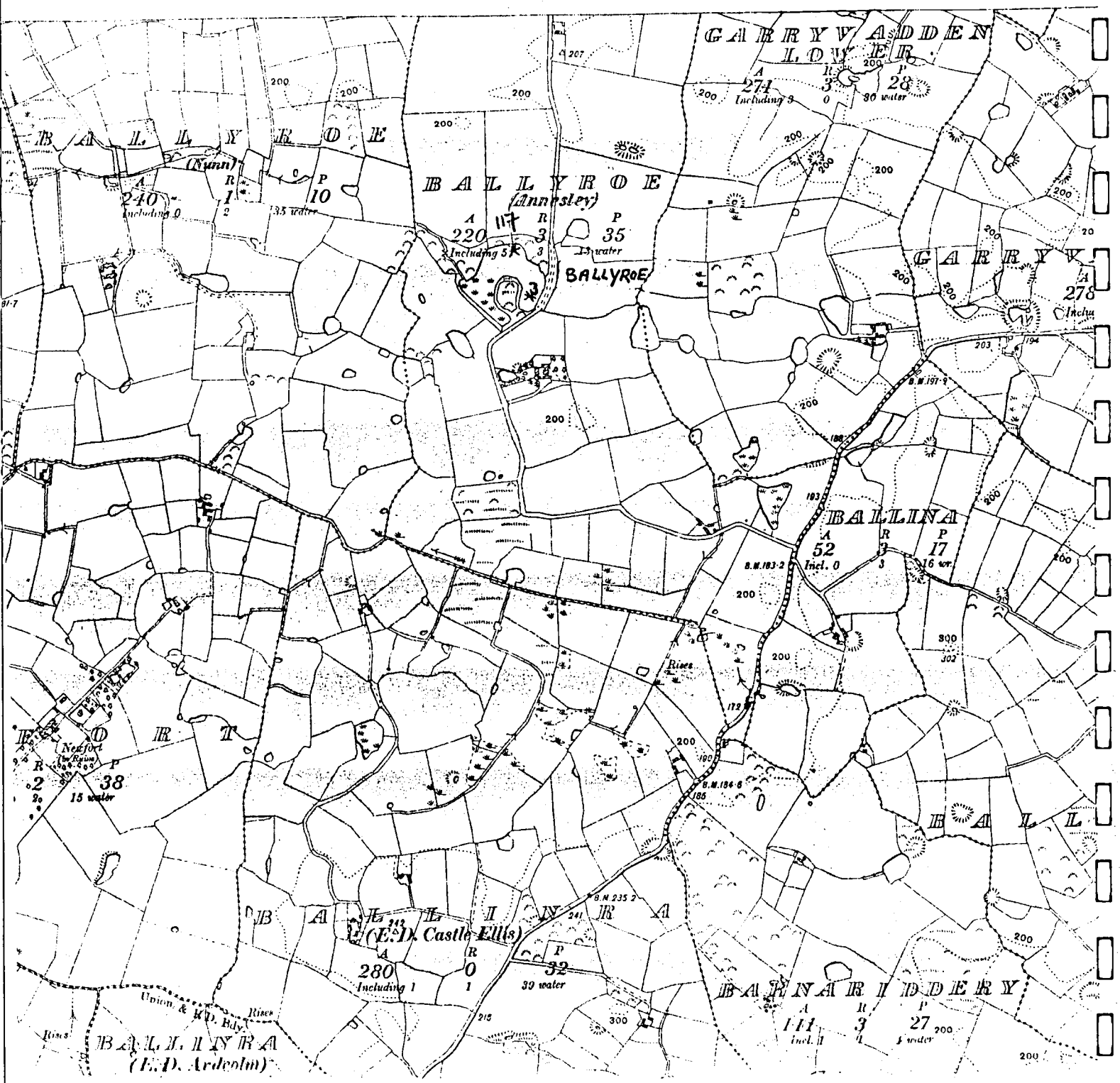
Classification: Charetum asperae (Subunit XXV)

Relevé No. 77

Location: Scirpus fringe
Size: 10 x 2m, Slope: steep, Exposure: sheltered, Water depth: 0.70m
Soil: sandy

	% Cover	Height (m)	Dominant species
Submergents	60	-	Elodea canadensis
Floating leaf	1	0.70	Nuphar lutea
Emergents	30	1.40	Scirpus lacustris
Total	60	-	Elodea canadensis

Classification: Charetum asperae (Subunit XXV)



Name of lake: BALLYROE

* location relevé.

Name of Lake: Ballyroe Lake No. 3

General Information

County : Wexford
O.S. ½ inch sheet no: 23
O.S. 6 inch sheet no: 33
Grid Ref : T 098 326
Sampling date: 29/7/77
Drainage order of inflowing stream: 0

Altitude: between 30-60m
Geology : Cambrian
Ecological Division: 5
Area : 1
Max length: 0.15 km

Physico-chemical information (for units see Table 2)

Water not analysed
Conductivity: 330
Max depth: 1.15m
Transparency: 1.15
Max vegetated depth: 1.15
Nature of bottom: Very soft organic mud

Site description and comments

Shallow small pondlike kettle hole overgrown with Polygonum amphibium. Shores gravelly on south side but otherwise bottom consisting of very soft organic mud. Macroscopic balls of the bluegreen alga Aphanocapsa lying on the mud (up to 2cm in diameter). Dominant submergent is Nitella translucens. Ballyroe apparently dries out completely in dry summers.

Emergent zones: Eleocharis palustris (117), Typha latifolia and Equisetum fluviatile dominated stands.

Floating Leaf zone: Polygonum amphibium (3) dominant with lakewards Potamogeton natans

Submergents zone: 100% cover of Nitella translucens lakeward of the floating leaf zone. The other dominant submergent is Fontinalis antipyretica, it grows under the Nitella translucens on the southern side of the lake. Spirogyra (width 150µ) found on this side of the lake.

Dominant planktonic species: Plankton contains a Dinoflagelate and a Euglena sp.

Ellenberg values		L	T	K	F	R	N
Relevé No:	3	6.6	4.5	4	10	7	5.7

Relevé No. 3

Location: West shore
Size: 3x1m, Slope: none, Exposure: sheltered, Water depth: 0.60m
Soil: organic mud on sand

	% Cover	Height (m)	Dominant species
Submergents	10	-	Nitella translucens
Floating Leaf	60	0.60	Polygonum amphibium
Total	60	0.60	Polygonum amphibium

Classification: Community of Polygonum amphibium (Subunit XXIII)
Remarks: Aphanocapsa (5) is dominant alga, colonies up to 2cm in diameter some of which are buried quite deeply in the bottom sediments. Myriophylum alterniflorum is present under the Polygonum amphibium in other areas.
At edge of Polygonum amphibium zone (in deeper water)Potamogeton natans appears and Nitella translucens is more dominant (up to 100%). Mougeotia (width 27.5). Oedogonium and Scenedesmus are epiphytes on Nitella in this zone.

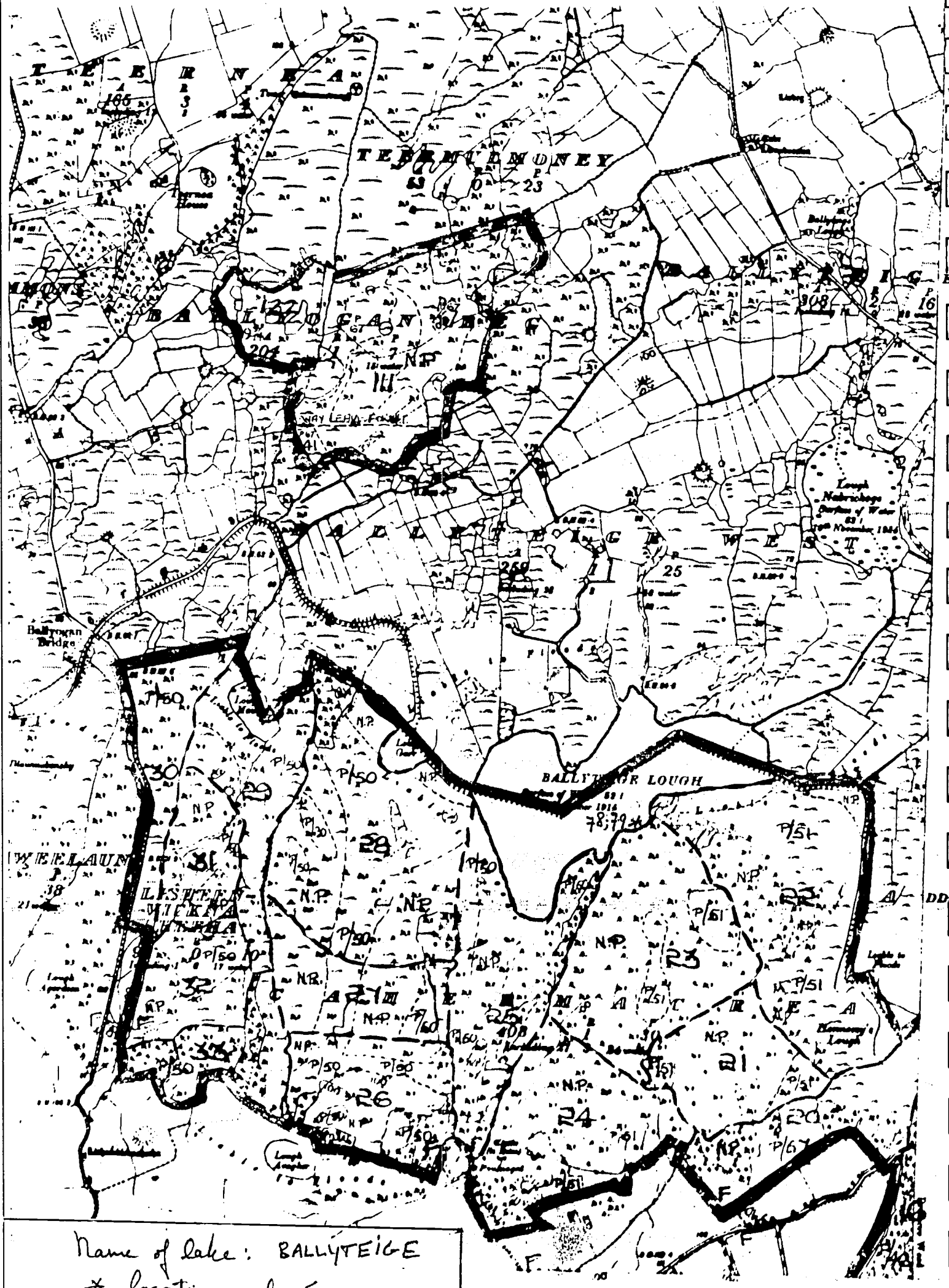
Relevé No 117

Location: North East shore
Size: 2x1m, Slope: none, Exposure: sheltered, Water Depth: 0.30m
Soil: soft sandy mud

	% Cover	Height (m)	Dominant species
Emergents	50	0.50	Eleocharis palustris
Total	50	0.50	Eleocharis palustris

Classification: Community of Eleocharis palustris (Subunit V)

Remarks: Subject to water level fluctuations.



Name of lake: BALLYTEIGE

* location relevé

Name of Lake: Ballyteige Lake No: 4

General Information

County: Clare
O.S. ½ inch sheet no: 14
O.S. 6 inch sheet no: 17
Grid ref: R 346 886
Sampling date: 30-8-78
Drainage order of inflowing stream: 29

Altitude: 15.8m
Geology: Limestone
Ecological division: 4
Area: 40 ha
Max length: 0.65 km

Physico-chemical information (for units see Table 2)

Conductivity:	334	Cl^+	2.48	Max. depth:	3.20m
Alkalinity:	0.31	Na^+	10.7	Transparency:	2.75m
Ca - hardness:	79	K^+	0.75	Max vegetated depth:	3m
Total hardness:	87	Ca^{2+}	28.2	Nature of bottom:	soft marl
Total P:	0.042				

Site description and comments

A small eutrophic calcareous lake subject to strong fluctuations in water level. Normal marginal swamp vegetation is by and large absent, being replaced by that more characteristic of turloughs. The shores consist of rock or mineral soil rather than peat, in contrast to the Dromore Lakes to the south of this area.

Emergent zone: Oenanthe aquatica dominated vegetation (79)

Floating leaf plants: Nuphar lutea (78)

Submergents: In shallow water Littorella uniflora, deeper Elodea canadensis (78). The Elodea vegetation exists lakeward and shoreward of the floating leaf zone. A large Spirogyra species (143μ wide) is very abundant. Within the emergent zone the submergent Apium inundatum dominates.

Dominant plankton species: mixture of species.

Ellenberg values:		L	T	K	F	R	N
Relevé No.:	78	7.5	6	3.6	11.2	7.0	6.0

Relevé details

Relevé No. 78

Location: Lakeward of Oenanthe zone (79)
Size: 4 x 1m, Slope: none, Exposure: sheltered, Water depth: 1m
Soil: fine soft marl.

	% cover	Height (m)	Dominant species
Submergents	70	-	Elodea canadensis
Floating leaf	1	1	Nuphar lutea
Total	70	-	Elodea canadensis

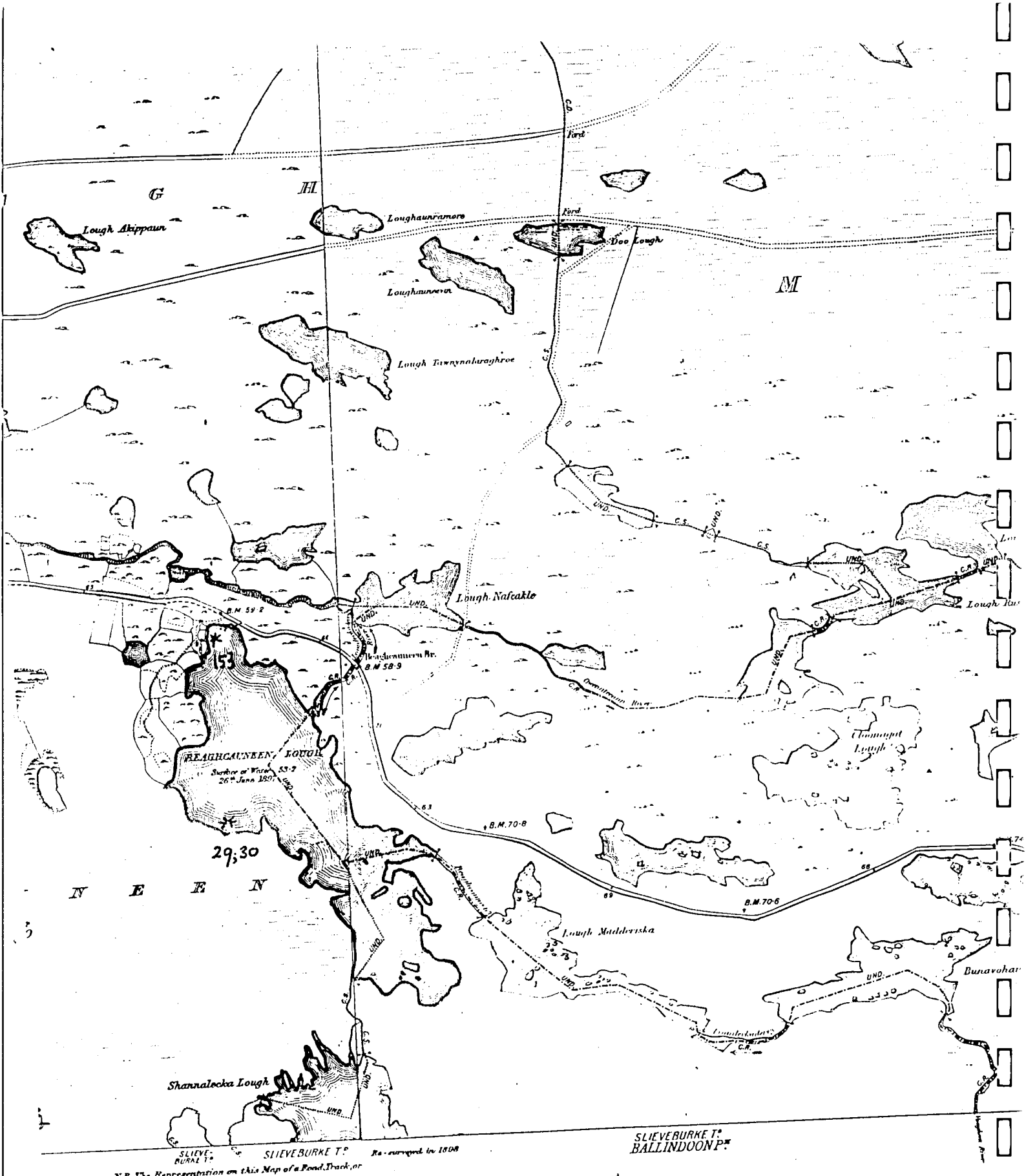
Classification: Community of Elodea canadensis and Lemna trisulca (Subunit XXVI)
Remarks: This vegetation band is 3-4m wide and occurs from 1 to 3 m depth. Spirogyra (143 in diameter) is main alga.

Relevé No. 79

Location: South-east shore
Size: 4 x 1m, Slope: gentle, Exposure: sheltered, Water depth: 0.50m
Soil: soft marl

	% Cover	Height (m)	Dominant species
Submergents	90	-	Apium inundatum
Emergents	30	0.80	Oenanthe aquatica
Total	100	-	Apium inundatum

Classification: Community of Oenahthe aquatica and Apium inundatum (Subunit I).
Remarks: The Oenanthe aquatica is beginning to die off (sampling date 30/8/78). Main alga is large Spirogyra species (143μ).



Name of lake: BEACHCAUNEEN

* location revised.

Name of Lake: Beaghcauneen Lake No. 5

General Information

County: Galway
O.S. ½ inch sheet no: 10
O.S. 6 inch sheet no: 35,36
Grid Ref: L 679 471
Sampling date: 10/8/77
Drainage order of inflowing stream: 4

Altitude: 16.2m
Geology: Schist and gneiss
Ecological division: 1
Area: 17 ha
Max length: 1 km

Physico-chemical information (for units see Table 2)

Conductivity:	110.5	Cl^+	14.2	Max depth: 3.50m
Alkalinity:	0.08	Na^+	11.6	Transparency: 2.40m
Ca-hardness:	3	K^+	0.23	Max vegetated depth: 3.50m
Total hardness	10	Ca^2	2.7	Nature of bottom: rocky and
Total P:	0.51	Mg^{2+}	12.0	peaty mud and on shores peaty sand, stones and gravel

Site description and comments

Large exposed steep sided soft water lake with rocky shores, muddy littoral zone and rocky bottom.

Emergents zone: mostly absent, small pockets of Phragmites australis or Eleocharis palustris present in sheltered inlets.

Floating leaf zone: Potamogeton natans present. Also area of Sparganium angustifolium.

Submergents zone: In shallow water Littorella uniflora dominated vegetation (29), or Lobelia dortmanna dominated areas (153). In deeper water Isoetes lacustris is dominant (30). As the water deepens the plants are smaller, presumably because of the decrease in light.

Dominant planktonic species: mixture of species

Ellenberg values		L	T	K	F	R	N
Relevé No.	29	7.3	5.0	2	10.3	2.7	1.5
	30	7	4	2	12	3	1
	153	7	5	2	9.7	2	1.7
Beaghcauneen lake		7.2	4.7	2	10.7	2.6	1.4

Relevé Details

Relevé No. 29

Location: North-East shore
Size: 10 x 5m, Slope: gentle, Exposure: exposed, Water depth: 1-2.20m
Soil: stones and gravel

	% Cover	Height (m)	Dominant species
Submergents	25	0.10	Littorella uniflora
Total	25	0.10	Littorella uniflora

Classification: Eriocaulo-Lobelietum Isoetetosum (Subunit XVb).
Remarks: Main algae Spirogyra spp.

Relevé No. 30

Location: Open water, 5m from shore
Size: 5 x 2m, Slope: steep, Exposure: exposed, Water depth: 2.50-3m
Soil: peaty mud

	% Cover	Height (m)	Dominant species
Submergents	50	0.20	Isoetes lacustris
Total	50	0.20	Isoetes lacustris

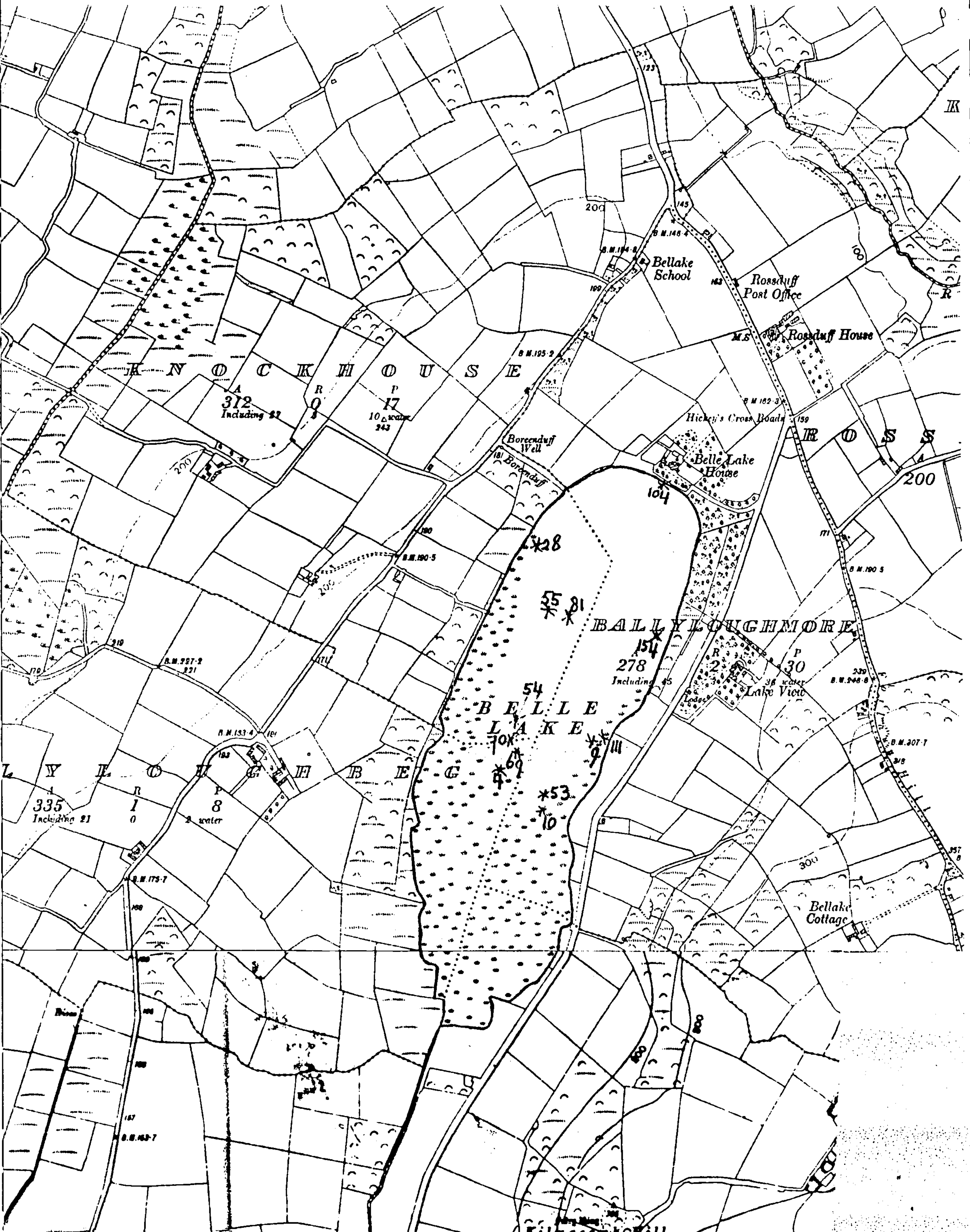
Classification: Community of Isoetes lacustris (Subunit XVII)

Relevé No. 153

Location: Northern Shore
Size: 2 x 1m, Slope: none, Exposure: exposed, Water depth: 0.10m
Soil: peaty sand and rocks

	% Cover	Height (m)	Dominant species
Submergents	60	0.20	Lobelia dortmanna
Total	60	0.20	Lobelia dortmanna

Classification: Eriocaulo-Lobelietum (Subunit XV a)
Remarks: Potamogeton natans and Fontinalis antipyretica are found in the same zone but not in this relevé.



Name of lake : BELLE

* location relevé.

Name of lake: Belle Lake No. 6

General Information

County : Waterford
O.S. ½ inch sheet no: 23
O.S. 6 inch sheet no: 18, 27
Grid ref: S 663 065
Sampling date: 5/8/77
Drainage order of inflowing stream: 0

Altitude: 60m
Geology: Ordovician
Ecological division: 5
Area: 35 ha
Max length: 1.3 km

Physico-chemical information (for units see Table 2)

Conductivity:	305	Cl^+	24.9	Max depth:	7.60m
Alkalinity:	1.14	Na^+	19.6	Transparency:	3m
Ca-hardness:	-	K^+	0.88	Max vegetated depth:	3.70m
Total hardness	-	Ca^{2+}	28.4	Nature of bottom:	silty mud
Total P:	0.58	Mg^{2+}	6.8	and fen peat.	

Site description and comments

A medium sized lake surrounded by agricultural land (pasture mostly). The catchment is small. The south end of the lake is shallow and the gently sloping bottom consists here of woody fen peat. At the northern end the substrate is rocky in the shallows and the shore slopes steeply. In the deeper water the bottom consists of silty, sandy mud. The water is hard and clear. It is suprising to find Isoetes lacustris and Elatine hexandra in this lake, species usually associated with soft oligotrophic waters. These plants were growing together with Potamogeton pectinatus (releve 28), generally considered an indicator of eutrophic conditions. The rare "lake ball" Cladophora aegagrophila is quite abundant. This lake contains a high diversity of vegetation types. The lake was stratified on the day of investigation, as a clear temperature gradient could be felt by the divers.

Emergents: An up to 10m wide Phragmites reed fringe surrounds most of the lake, an extensive Phragmites swamp occurs at the south end (releve 4). The Phragmites fringe is replaced by Typha angustifolia (releve 9) in one large area, it is at least 15m wide. On the landside of the reed fringe are present a zone of Eleocharis palustris (relevé 104) and in patches Carex rostrata and Menyanthes trifoliata (releve 111). The reed fringe is fronted by Scirpus lacustris. On the stony northern shore the reed zone is much reduced or absent. Littorella uniflora is the dominant "emergent" here (releve 154).

Floating leaf zone: Potamogeton natans (relevé 10) covers less than 1% of the lake surface. Fontinalis antipyretica reaches a cover of 100% within this vegetation type. In places Potamogeton natans is missing and the floating leaf zone is absent. See also releve 69.

Submergents: A community of Potamogeton pectinatus (relevé 53,54) occurs from 1 m to 2m depth. A community of Elodea canadensis, Lemna trisulca and Potamogeton obtusifolius (the latter is the dominant, relevés 69, 70) occurs from 1.40m to 2m depth also. The most extensive vegetation type is dominated by Potamogeton perfoliates (relevé 55) and occurs at a depth of more than 2 m. On the western shore a zone of Chara globularis (100%) is found from 2m depth up to 3.70m depth (relevé 81). On the lake ward side of the Littorella zone (north-east side) occur Myriophyllum spicatum and Isoetes lacustris at 1m depth (relevé 28). The alga Cladophora aegagrophila forms balls off up to 15cm in diameter. These balls were found on the bottom throughout the submergent zones of the south end of the lake (relevé 4A) the submergent vegetation (relevé 10) is in some places covered with a large cloud of a filamentous green alga (Mougeotia sp. 22.5μ wide). Typha angustifolia stems have Oscillatoria splendida and Phormidium spp (releve 9) growing on them. Littorella has colonies of Gloeotrichia cf. intermedia and Oscillatoria splendida (relevé 154A). The submergent zone covers about 30% of the lake surface.

Dominant planktonic species: Microcystis cf. aeruginosa is very abundant. Staurastrum sp. and Volvox sp. are very common and Fragillaria crotonensis is also present.

Ellenberg values

		L	T	K	F	R	N
Relevé No.	10	7	5	4.3	11.3	7	5.8
	28	6.4	5.5	3	11.4	5.6	3.5
	53	6.7	5	4.3	11.3	6.8	5.3
	54	6.3	6	5	12	7	6
	55	6.3	7	2	11	6	3
	69	6.8	4.8	4.3	11.2	6.7	5.4
	70	6.5	5.5	4.0	12	6	5.5
	81	-	-	-	-	-	-
Belle Lake		6.6	5.5	3.8	11.5	6.4	4.9

Relevé details

Relevé No. 4

Location: Phragmites swamp on south end of lake
Size: 2 x 2m , Slope: none, Exposure: sheltered, Water depth: 0.15m
Soil: Phragmites peat

	% Cover	Height (m)	Dominant species
Submergents	1	-	
Emergents	90	2	Phragmites australis
Total	90	2	Phragmites australis

Classification: Scirpo-Phragmitetum (Subunit X)
Remarks: An area with Phragmites and Scirpus lacustis only exists lakeward of the Phragmites swamp. The reed swamp ends in a shelf with a drop of 0.20 - 0.80m. Below the shelf the bottom consists of unconsolidated fen peat covered in 1cm of black organic mud. The lake ball Cladophara aegagrophila is abundant in this peaty eroding area with very little plant cover, and is rolled around by currents and wave action.

Relevé No. 9

Location: South east shore of lake
Size: 5 x 5m , Slope: none, Exposure: sheltered, Water depth: 1.0m
Soil; fibrons peat covered with litter.

	% Cover	Height (m)	Dominant species
Submergents	1	-	Elodea canadensis
Emergents	50	2	Typha angustifolia
Total	50	2	Typha angustifolia

Classification: Typhetum angustifoliae (Subunit VII)
Remarks: This vegetation zone is more than 15m wide. Potamogeton natans appears at the lakeward edge.

Relevé No. 10

Location: On the lakeward side of the Typha bed on the South east shore of the lake
Size: 5x5m , Slope: none, Exposure: sheltered, Water Depth: 1.0m
Soil: poorly decomposed peat, bits of wood scattered through the peat

	% Cover	Height(m)	Dominant species
Submergents	100	-	Fontinalis antipyretica
Floating Leaf	40	1	Potamogeton natans
Total	100	-	Fontinalis antipyretica

Classification: Community of Potamogeton natans (Subunit XXIV).
Remarks: A large cloud of mainly Mougeotia sp (22.5 wide, with small pyrenoids) is suspended over the submerged vegetation.

A pure stand of Fontinalis antipyretica with 100% cover occurs northward of this vegetation. The floating leaf zone is missing here.

Relevé No. 28

Location: Northwestern shore of the lake, 8m from the shore line.
Size: 5x1m, Slope: steep, Exposure: exposed, Water depth: 1.0m
Soil: sandy and silty, peaty brown unconsolidated material present.

	% Cover	Height(m)	Dominant Species
Submergents	70	1	Myriophyllum spicatum
Total	70	1	Myriophyllum spicatum

Classification: Community of Isoetes lacustris (Subunit XVII)
Remarks: In some places in this vegetation zone Phragmites australis occurs (5% cover) and the Isoetes lacustris is missing. In shallower water the abundance of Myriophyllum decreases to 2 and Littorella uniflora appears (abundance 4). It is remarkable to find Isoetes lacustris and Elatine hexandra (plants usually found in soft oligotrophic water) growing together with Potamogeton pectinatus, usually considered a plant indicative of eutrophic conditions.

Relevé No. 53

Location: South end of lake, North of Phragmites swamp
Size: 2x5m, Slope: none, Exposure: sheltered, Water depth: 1m
Soil: woody fen peat

	% Cover	Height(m)	Dominant species
Submergents	5	-	Potamogetin obtusifolius
Emergents	5	1.5	Equisetum fluviatile
Total	10	1.5	Equisetum fluviatile

Classification: Charetum asperae (Subunit XXV)
Remarks: Submergents do not look healthy, except for Potamogeton obtusifolius.

Relevé No. 54

Location: South end of lake, North of Phragmites swamp
Size: 2x2m , Slope: none, Exposure: sheltered, Water depth: 1.85m
Soil: brown silty organic mud with some undecomposed plant debris.

	% Cover	Height(m)	Dominant species
Submergents	70	1.80	Potamogeton pectinatus
Total	70	1.80	Potamogeton pectinatus

Classification Charetum asperae (Subunit XXV)
Remarks: Near the surface the vegetation is unevenly dispersed,. possibly from activity of swans?

Relevé No. 55

Location: off shore, Western side of lake
Size: 5x5m , Slope: slight, Exposure: relatively sheltered, Water depth: 2.60m
Soil: grey sandy clay up to 10cm deep, 20 cm of fine silt, 3cm of white marl and at more than 33cm depth brown organic material (fen peat)

	% Cover	Height(m)	Dominant species
Submergents	60	2.60	Potamogetan perfoliatus
Total	60	2.60	Potamogetan perfoliatus

Classification: Charetum asperae (Subunit XXV)
Remarks: This is the most extensive submergent vegetation in the lake. From the soil core it appears that the sandy clay soil was deposited on top of fen peat.

Relevé No. 69

Location: In sheltered bay at Southern end, 5m beyond the reed swamp
Size: 2x2m , Slope: none, Exposure: sheltered, Water depth: 1.40m
Soil: fen peat

	% Cover	Height(m)	Dominant species
Submergents	90	0.25	Potamogeton obtusifolius
Floating leaf	50	1.40	Potamogeton natans
Emergents	5	1	Equisetum fluviatile
Total	100	0.25	Potamogeton obtusifolius

Classification: Community of Elodea canadenus and Lemna trisulca (Subunit XXVI)
Remarks: This vegetation is part of the floating leaf zone, but has also important submergent components. The presence of Equisetum fluviatile at this depth is remarkable, and may be an indication of a fluctuating water table.

Relevé No. 70

Location: In sheltered bay at South end, 10m beyond the reed swamp
Size: 2x2m , Slope: none, Exposure: sheltered, Water depth: 1.70m

Soil: peaty mud 10cm, woody fen peat 30cm, deeper grey marly clay.

	% Cover	Height(m)	Dominant species
Submergents	100	1	Potamogetan obtusifolius
Total	100	1	Potamogetan obtusifolius

Classification: Community of Elodea canadensis and Lemna trisulca (Subunit XXVI)

Relevé No. 81

Location: 30 metres offshore on Western side of lake
Size: 2x2m , Slope: slight, Exposure: relatively sheltered, Water depth: 3.60m.
Soil: silty mud

	% Cover	Height(m)	Dominant species
Submergents	100	0.35	Chara fragilis
Total	100	0.35	Chara fragilis

Classification: Sociation of Chara fragilis (Subunit XXIX)
Remarks: This vegetation type extends from a depth of 2-3.70m from 18-30 metres off-shore. Chara fragilis grows to greater depths than the vascular submergents.

Relevé No. 104

Location: North shore of lake
Size: 3 x 1m , Slope: none, Exposure: exposed, Water depth: 0.10 m.
Soil: gravel and stones, 5cm of detrital mud.

	% Cover	Height (m)	Dominant species
Emergents	100	0.70	Eleocharis palustris
Total	100	0.70	Eleocharis palustris

Classification: Community of Eleocharis palustris (Submit V)
Remarks: A band of Phragmites occurs on the lakeward side of this vegetation. Littorella uniflora grows with a cover of 80%, further lakewards.

Relevé No. 111

Location: Eastern shore of lake
Size: 3 x 1m , Slope: none, Exposure: sheltered, Water depth: 0.05 - 0.10 m.
Soil: black mud with much detrital material.

	% Cover	Height(m)	Dominant species
Emergents	60	0.30	Carex rostrata and Menyanthes
Total	60	0.30	Carex rostrata and Menyanthes

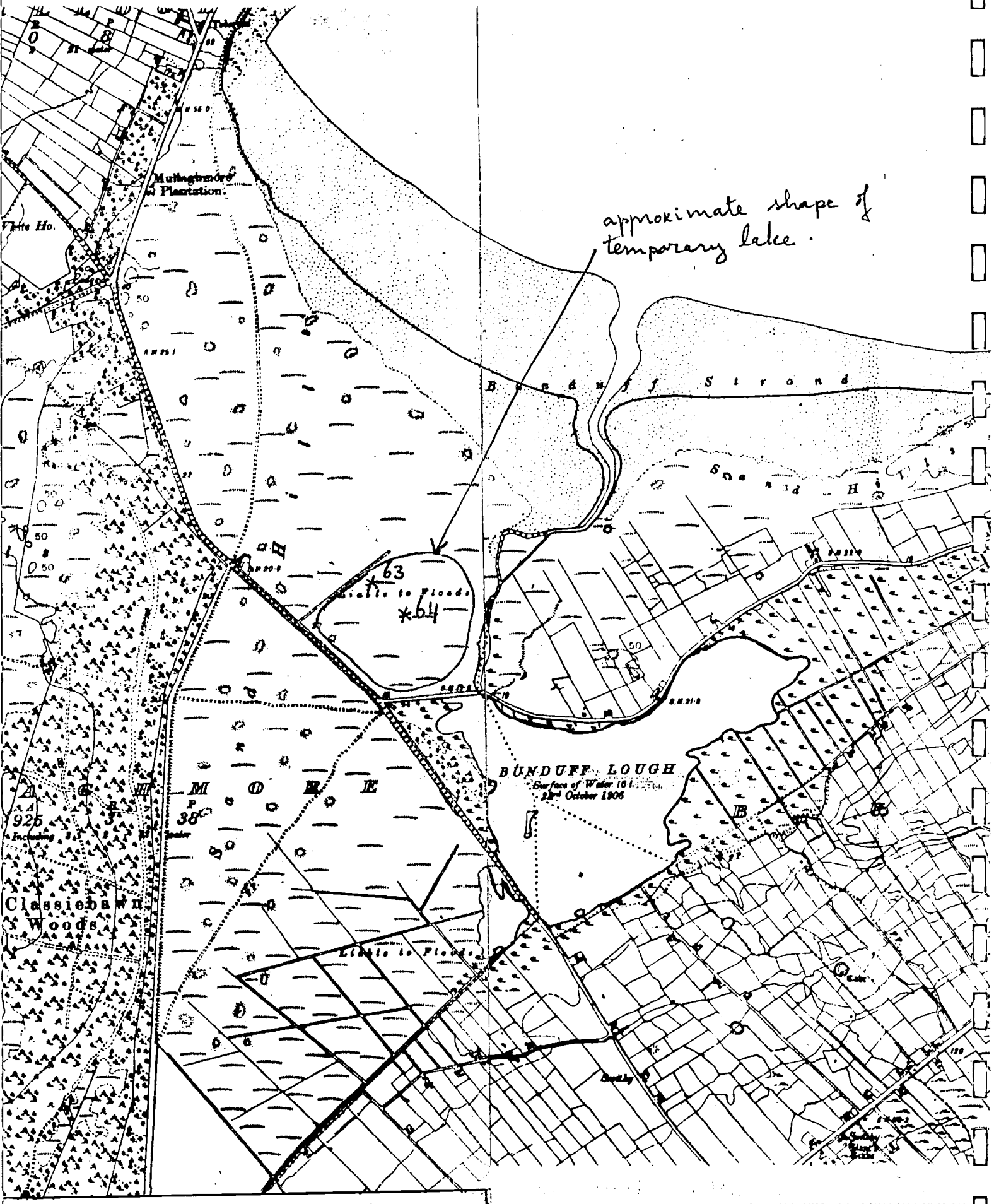
Classification: Carecetum rostratae, subassociation with elements of Littorellion (Subunit IIa)
Remarks: This community is separated from the shore by up to 0.20 m of deep water, containing Equisetm fluviatile and Alisma plantago-aquatica with low total cover. This sparsely vegetated gap is presumably caused by the grazing of cattle. A band of ten metres lakeward of the Carex rostrata and Menyanthes vegetation.

Relevé No. 154

Location: on exposd North Eastern Shore
Size: 2 x 1m , Slope: none, Exposure: exposed, Water depth: 0.05m
Soil: stones, gravel

	% Cover	Height(m)	Dominant speices
Emergents	50	0.10	Littorella uniflora
Total	50	0.10	Littorella uniflora

Classification: Community of Littorella uniflora and Scirpus lacustris (Subunit XII)
Remarks: Grazed by cattle.



Name of lake: BUNDUFF

* location relevé.

Name of Lake: Bunduft Lake No. 7

General Information

County: Sligo
O.S. ½ inch sheet no.:7
O.S. 6 inch sheet no: 2, 3
Grid Ref: G 716 554
Sampling date: 15.9.78
drainage order of inflowing stream: 1

Attitude: 5m
Geology: limestone
Ecological division: 7
Area: 45 ha
Max length:

Physico-chemical information (for units see Table 2)

Conductivity:	395	Cl^-	6.39	Max. depth:	0.75m
Alkalinity :	0.24	Na^+	28.2	Transparency:	>depth
Ca-hardness :	69	K^+	2.6	Max veg. depth:	0.75m
Total hardness:	109	Ca^{2+}	25.0	Nature of bottom:	
Total P:	0.104	Mg^{2+}	7.6	Sand and mud	

Site description and comments

Shallow coastal lake behind sand-dunes with sandy bottom and calcareous water. Marginal vegetation deominated by Scirpus maritimus, with large stands of Phragmites australis and Typha latifolia. In the more open water Eleocharis palustris and Equisetum fluviatile occur with Chara aspera. Potamogeton pectinatis is dominant in the deeper water. Relevés were taken from a small shallow dune slack which had almost no emergent vegetation (due to grazing). The plankton was taken from the permanent part of the lake.

Emergent zone: Scirpus maritimus is dominant. Areas of Phragmites australis and Typha laifolia occur. In more open water Equisetum fluviatile and Eleocharis palustris.

Floating leaf zone: areas of Potamogeton natans and Polygonum amphibium with Equisetum fluviatile and Fontinalis antipyretica.

Submergent zone: In shallower water Chara aspera is dominant (63) and in somewhat deeper water Potamogeton pectinatus (64).

Dominant planktonic species: Mougeotia sp. ($>12 \leqslant 16 \mu$). The plankton was taken from the somewhat deeper part of the lake to the east, Mougeotia is not a true plankton species and is presumed to be present in clouds, as was observed in Belle lake.

Ellenberg Values		L	T	K	F	R	N
Relevé No.	63	6.6	4.3	5	11.3	7.4	6.3
	64	5.7	5	5	12	7.3	7.5
Bundfut Lough		6.2	4.7	5	11.7	7.4	6.9

Relevé No. 63

Location: Western shallow part of the lake, in sparse emergent fringe.
Size: 5x5 m, Slope: none, Exposure: exposed, Water depth: 0.40m
Soil: sandy mud

	% Cover	Height (m)	Dominant species
Submergents	85	-	Chara aspera
Emergents	5	0.75	Eleocharis palustris
Total	85	-	Chara aspera

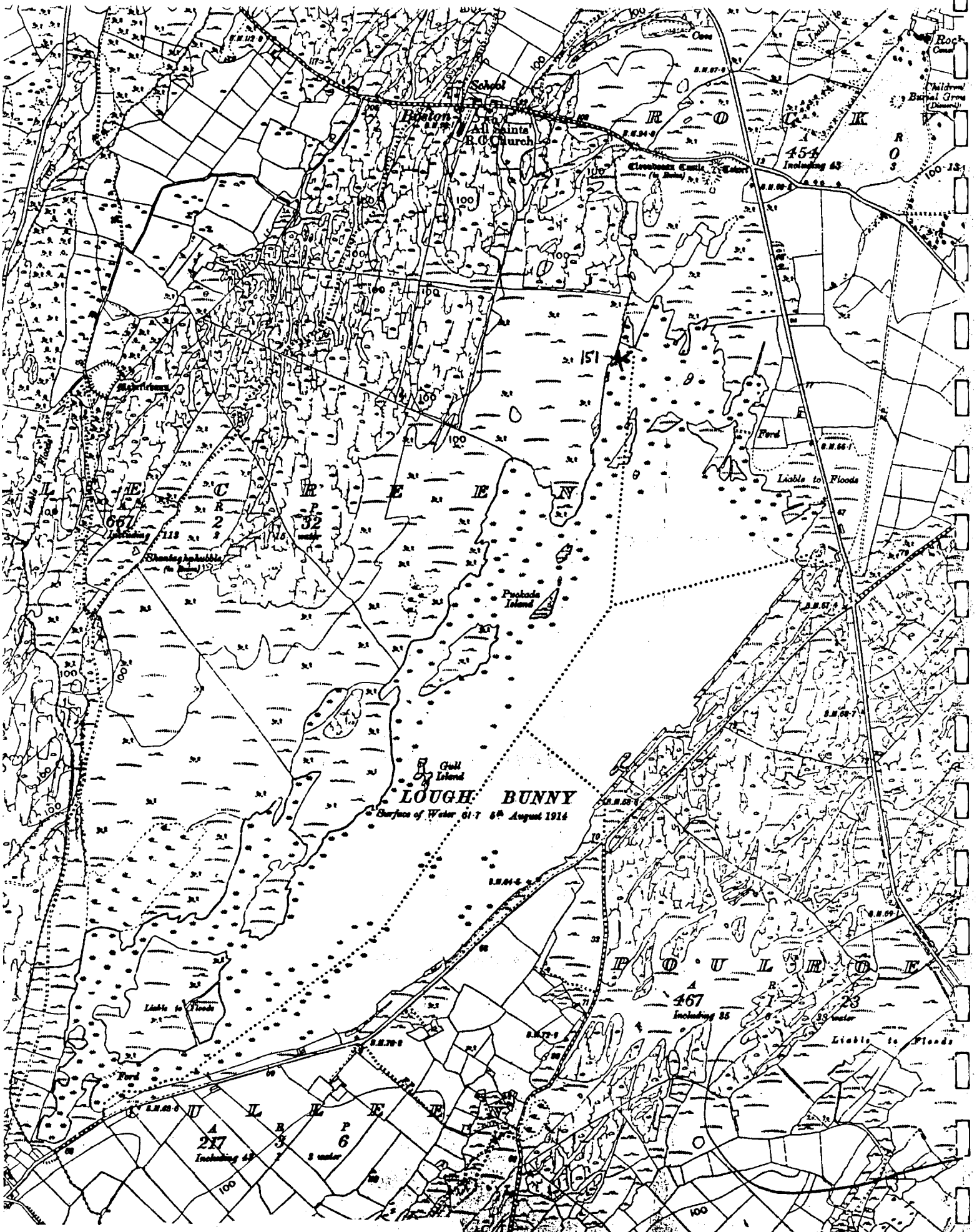
Classification: Charetum asperae (Subunit XXV).
Remarks: The diatom Gomphonema is the dominant epiphyte on Chara. Chara aspera is more dominant in shallower water. Chara rudris occurs in sheltered areas near the shore in very similar vegetation. Potamogeton pectinatus is the dominant in open,deeper water. Chara baltica, a Chara species new to Ireland,occurs on the edges of disturbed areas.

Relevé No. 64

Location: Western shallow part of the lake, in open water
Size :5x5m, Slope: none, Exposure: exposed, Water depth: 0.75m
Soil: sandy mud.

	% Cover	Height (m)	Dominant species
Submergents	90	0.7	Potamogeton pectinatus.
Total	90	0.7	Potamogeton pectinatus

Classification: Charetum asperae (Subunit XXV)
Remarks:Gloeotrichia is the dominant epiphyte on the Potamogeton.



Name of lake: BUNNY

* location relevé

Name of Lake: Bunny Lake No: 8

General Information

County: Clare
O.S. ½ inch sheet no: 14
O.S. 6 inch sheet no: 11
Grid Ref: R 370 970
Sampling Date: 11-8-81
Altitude: 20m
Geology: limestone
Ecological division: 4
Area: 94 ha
Max Length: 2 km
Drainage order of inflowing stream: 0 (under_ground drainage)

Physico-chemical information (for units see table 2)

Water not analysed
Max depth: -
Transparency: -
Max vegetated depth: 4.50m
Nature of bottom: Soft marl

Site description and comments

Calcareous lake bordered by Phragmites australis and Cladium mariscus. Scirpus lacustris beds also present, especially on margins of "pike" holes. Reeds backed by fringe of Carex spp. (C. elata, C. lasiocarpa). Nuphar lutea forms sparse floating leaf zone in places. Submergent vegetation mainly Chara beds.

Ellenberg values		L	T	K	F	F	N
Relevé No.	151	7.6	6.3	1.8	10.4	8	1.7

Relevé No. 151

Location: on landward side of reed fringe.
Size: 2 x 2 m, Slope: none, Exposure: sheltered, Water depth: 0
Soil: sandy/marly mud

	% Cover	Height (m)	Dominant species
Emergents	50	0.05	Potamogeton coloratus
Total	50	0.05	Potamogeton coloratus

Classification: Community of Potamogeton coloratus and Juncus bulbosus f. fluitans (Subunit XIII).
Remarks: Fluctuating water table, at present emers. Relevé taken by Tom Curtis and Noel McGough.

Name of lake: Caragh
(1/2 inch map no 20)
* location relevé.

Name of Lake: Caragh Lake No.: 9

General Information

County: Kerry
O.S. ½ inch sheet no. 20
O.S. 6 inch sheet no. 64
Grid Ref: V 720 900
Sampling date: 9-10-77
Drainage order of inflowing stream: 109

Altitude: 17.8 m
Geology: Old red sandstone
Ecological division: 2
Area: 430 ha
Max length: 5 km

Physico-chemical information (for units see Table 2)

Conductivity:	80	Cl^+	8.5	Max depth: 39.0 m
Alkalinity:	0.90	Na^+	6.5	Transparency: 2.50 m
Ca-hardness:	5	K^+	0.16	Max vegetated depth: 4m
Total hardness:	12	Ca^{2+}	2.6	Nature of bottom: sand and
Total P:	1.2	Mg^{2+}	6.3	rock in shallows, mud in deeper areas.

Site description and comments

Large clean soft water lowland lake with large mountainous catchment area covered in mainly heathy and boggy vegetation. One bay on south east shore investigated. Scirpus and phragmites reed beds presents. Submergent vegetation dominated by Littorella, Eriocaulon aquaticum, Juncus bulbosus and Isoetes lacustris. Najas flexilis and Subularia aquatica present. Soil varying from sand, rock and gravel in shallow water to mud in deeper water.

Emergent Zone: Scirpus lacustris (18) and Phragmites reed beds.

Floating leaf zone: Potamogeton natans (18).

Submergent zone: Areas with dominance of the following species occur. Eriocaulon aquaticum (18), Juncus bulbosus (43), Isoetes lacustris (32), Nitella flexilis v. flexilis (43) going from shallow to deep. Najas flexilis occurs from 2.40 - 4 m depth (relevé 44). A few specimens of Subularia aquatica were

encountered, in much the same place as they were reported to occur by Praeger in 1934.

Dominant planktonic species: The dominant species was Schizothrix affines. This is usually a benthic species. The reason it was abundant in the plankton is probably that the weather had been very windy and the Caragh River had been in flood.

Ellenberg values		L	T	K	F	R	N
Relevé No:	18	7.0	4.8	2.5	10.7	4.8	2.0
	32	7.0	4.0	2.0	12.0	3.0	2.0
	43	7.3	4.0	3.3	11.8	4.7	3.5
	44	7.0	4.0	2.0	12.0	3.0	1.0
Lough Caragh		7.1	4.2	2.5	11.6	3.9	2.3

Relevé details

Relevé No. 18

Location: bay on west shore
Size: 6 x 2 m^2, Slope: none, Exposure: exposed, Water depth: 1.80m
Soil: sand

	% Cover	Height (m)	Dominant species
Submergents	50	0.10	Littorella uniflora
Floating leaf	1	1.80	Potamogeton natans
Emergents	5	0.60	Scirpus lacustris
Total	55	0.10	Littorella uniflora

Classification: Eriocaulo - Lobelietum Isoetetosum (Subunit XVb).
Remarks: On lake side of Scirpus zone Potamogeton natans is more dominant and occurs with abundant Isoetes lacustris. Towards the land side, in shallower water, Eriocaulon aquaticum is the dominant species, the total cover is 80% in this area. The dominant algal species were Oedogonium spp. (5-15μ), Tabellaria flocculosa and Tabellaris fenestrata.

Relevé No. 32

Location: bay on west shore
Size: 5x5m, Slope: gentle, Exposure: sheltered, Water depth: 2.50m
Soil: rock and stones

	% Cover	Height (m)	Dominant species
Submergents	10	0.05	Isoetes lacustris
Total	10	0.05	Isoetes lacustris

Classification: Community of Isoetes lacustris (Subunit XVII).
Remarks: The Isoetes plants are growing in between the rocks. As the water gets shallower Lobelia dortmanna and Eriocaulon aquaticum occur also. At 0.60 m depth no plant cover.

Relevé No. 43

Location: bay on west shore
Size: 10 x 10 m, Slope: none, Exposure: exposed, Water depth: 2.50 m
Soil: fine sand

	% Cover	Height (m)	Dominant species
Submergents	80	0.60	Juncus bulbosus
Total	80	0.60	Juncus bulbosus

Classification: Community of Najas flexilis and Potamogeton berchtoldi (Subunit XIX).
Remarks: In shallower water Juncus bulbosus becomes more dominant, in deeper water Nitella flexilis v. flexilis becomes more dominant. Nitella translucens also found. The dominant algae are Oedogonium spp. (2μ,5μ,15μ).

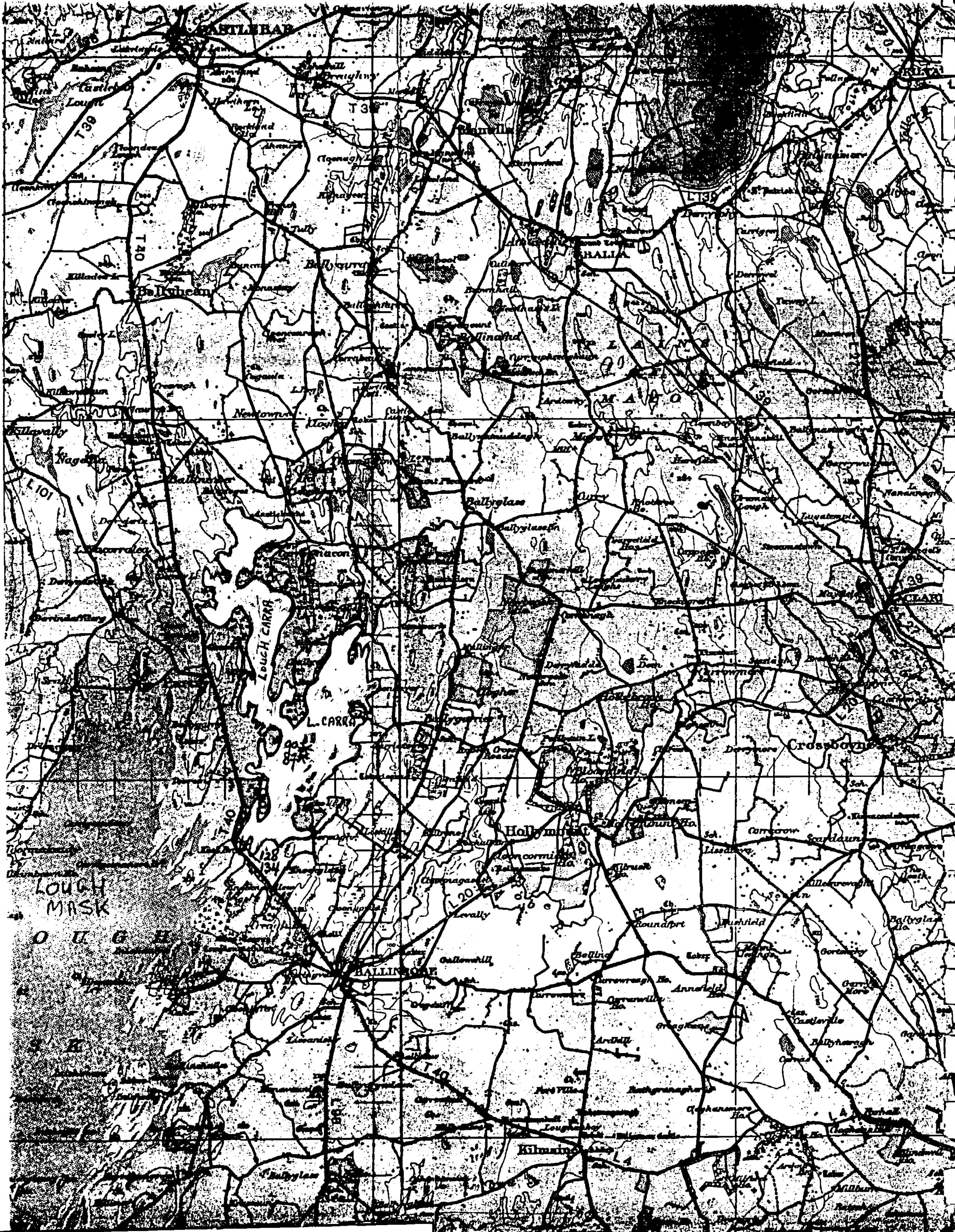
Relevé No. 44

Location: bay on west shore
Size: 10 x 10 m , Slope: none, Exposure: sheltered, Water depth: 4.0 m
Soil: silt

	% Cover	Height (m)	Dominant species
Submergents	30	0.45-0.60	Potamogeton berchtoldii
Total	30	0.60	Potamogeton berchtoldii

Classification: Community of Najas flexilis and Potamogeton berchtoldii (Subunit XIX).

Remarks: At about 2.40 m the substrate changes from rocky to silty and Najas flexilis appears. Isoetes lacustris is commoner in the shallower end of this zone. Practically no algae found to grow on the plants in this relevé.



Name of lake: CARRA
(¼ inch map no. 11)
* location relevé.

Name of lake: Carra Lake No. 10

General Information

County: Mayo
O.S. ½ inch sheet no. 11
O.S. 6 inch sheet no. 99, 100, 109, 110
Grid Ref: M 172 720
Sampling date: 25-8-77
Drainage order of inflowing stream: 4

Altitude: 21 m
Geology: Limestone
Ecological division: 4
Area: 1500 ha
Max. length: 7 km

Physico-chemical information (for units see Table 2)

Conductivity:	245	Cl^+	20.6	Max. depth:	9.80 m
Alkalinity:	0.16	Na^+	10.8	Transparency:	6.50 m
Ca-hardness:	63	K^+	0.48	Max. vegetated depth:	10m
Total hardness:	84	Ca^{2+}	27.4	Nature of bottom:	marl
Total P:	0.86	Mg^{2+}	11.2		

Site description and comments

Large clear water calcareous lake of a complex shape. Large shallow areas with a few deep "pike" holes. Exposed shallow areas devoid of vegetation. Shores rocky or peaty depending on degree of exposure.

Emergent zone: Going from the shore lakeward the following plants dominate the bands: Schoenus nigricans, Carex rostrata/ Carex lasiocarpa, in some places Cladium mariscus, Scirpus lacustris (134), Phragmites australis (128). Littorella occurs on exposed rocky shores.

Floating leaf zone: not present.

Submergent zone: Shallow exposed areas devoid of vegetation in sheltered areas. In more exposed areas at 2.75 m Chara desmacantha dominates (90), in deeper water (greater than 4 m) Chara contraria is most abundant (87). At 7 m depth Charas

disappear and are replaced by bright green algal mats growing on the marly bottom. A bright purple 2μ wide Phormidium species is the most common constituent. The algal mat is found up to 10 m depth.

Dominant planktonic species: Dinoflagellates.

Ellenberg values		L	T	K	F	R	N
Relevé No.	87	6	-	-	12	7	4
	90	7.3	5	2	12	6.5	4.0
Carra lake		6.7	5	2	12	6.8	4

Relevé details

Relevé No. 87

Location: open water
Size: 5 x 5m, Slope: gentle, Exposure: exposed, Water depth: 5 m
Soil: marly

	% Cover	Height (m)	Dominant species
Submergents	100	0.15	Chara contraria
Total	100	0.15	Chara contraria

Classification: Community of Chara contraria (Subunit XXXI).
Remarks: Phormidium (2μ) and diatoms dominant algae.

Relevé No. 90

Location: open water
Size: 5 x 5 m, Slope: gentle, Exposure: exposed, Water depth: 2.75m
Soil: marly

	% Cover	Height (m)	Dominant species
Submergents	60	0.05	Chara desmacantha
Total	60	0.05	Chara desmacantha

Classification: Community of Chara desmacantha (Subunit XXX).
Remarks: Diatoms are the dominant epiphytes.

Relevé No. 128

Location: Phragmites fringe, sheltered bay south-east end of lake.
Size: 2 x 1 m, Slope: none, Exposure: sheltered, Water depth: 0.02m.
Soil: marl

	% Cover	Height (m)	Dominant species
Submergents	60	2.50	Phragmites australis and Mentha aquatica
Total	60	2.50	Phragmites australis and Mentha aquatica

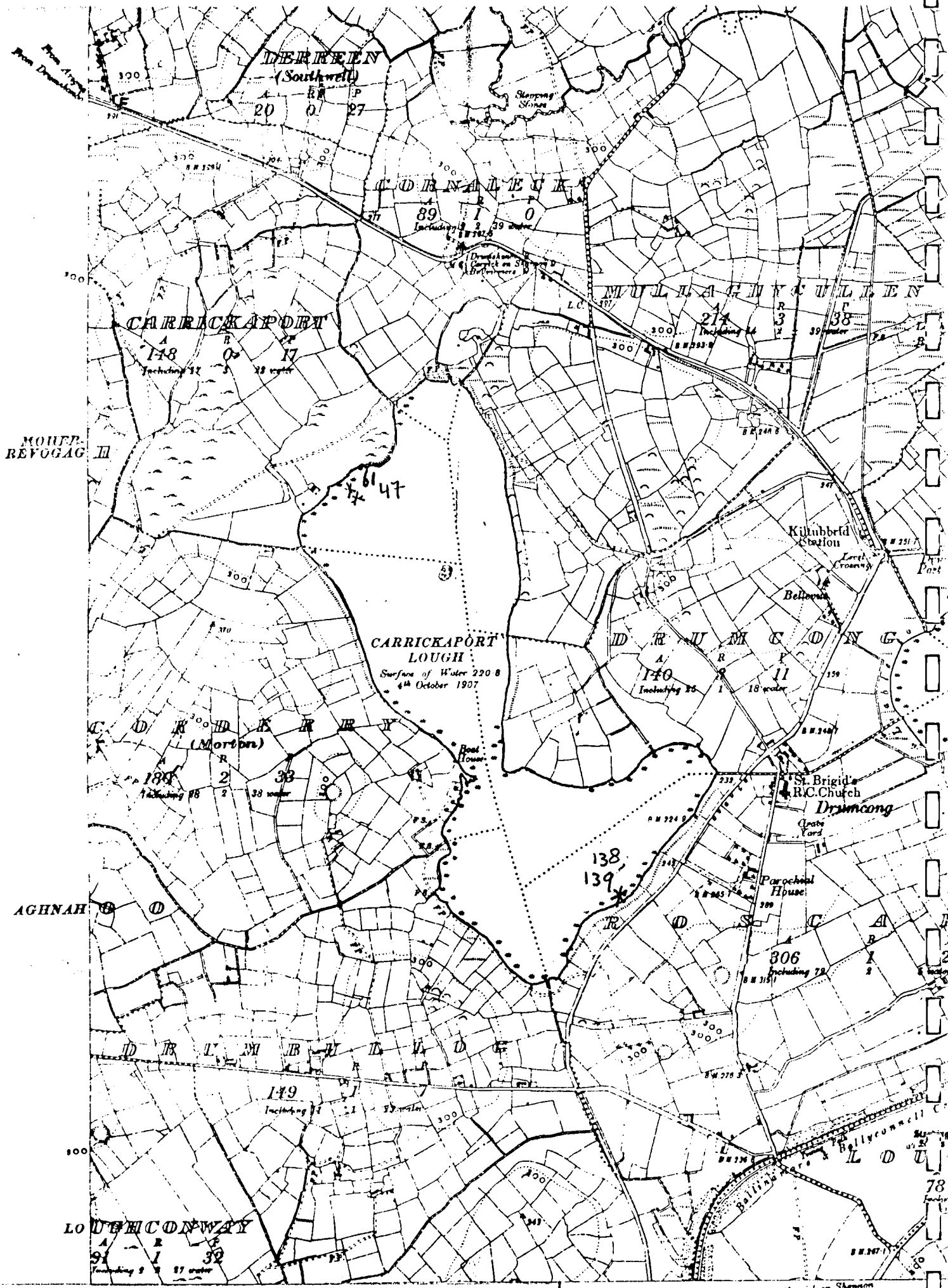
Classification: Scirpo-Phragmitetum (Subunit X).

Relevé No. 134

Location: Scirpus fringe in sheltered bay, south-east end of lake.
Size: 2 x 1 m, Slope: none, Exposure: sheltered, Water depth: 0.03 m
Soil: marl with rocks

	% Cover	Height (m)	Dominant species
Submergents	30	1	Scirpus lacustris
Total	30	1	Scirpus lacustris

Classification: Scirpo-Phragmitetum (Subunit X).
Remarks: On the lakeward side of the Scirpus bed is a Phragmites bed (128) on the landward side a Carex rostrata/Carex lasiocarpa band.



Name of Order : CARRICKAPORT

* Location noted

Name of Lake: Carrickaport Lake No. 11

General Information

County: Leitrim
O.S. ½ inch sheet no.: 7
O.S. 6 inch sheet no.: 24
Grid Ref: H 010 090
Sampling date: 11.9.78
Drainage order of inflowing stream: 1

Altitude: 67.3
Geology: Limestone
Ecological division: 4
Area: 90 ha
Max. length: 1.4 km

Physico-chemical information (for units see Table 2)

Conductivity:	188	Cl^+	2.48	Max. depth: 2 m
Alkalinity:	0.14	Na^+	8.2	Transparency: 0.95 m
Ca-hardness:	53	K^+	1.26	Max. vegetated depth: 1.70m
Total hardness:	65	Ca^{2+}	20.0	Nature of bottom: stony
Total P:	0.146	Mg^{2+}	3.2	in shallows, sandy mud with plant remains in deeper water.

Site description and comments

Medium sized lake surrounded by rushy pastures, small catchment. Fairly hard water which appears unclear because of a large plankton standing crop. Shores are stony and Phragmites and Scirpus reed beds are present. In the Scirpus reed bed an aquatic moss Octodicerns fontanum is growing on rocks in approximately 0.60 m of water. This species is new to Ireland. It is indicative of eutrophic conditions. A plankton bloom of Microcystis sp., as well as other algae indicative of eutrophic conditions also suggest that the lake is eutrophicated.

Emergent zone: Three distinct bands of vegetation are present; going from the land towards the water Littorella dominated area (138), Eleocharis palustris band (13) and a Scirpus reed bed. The Scirpus bed is replaced by Phragmites in some places (61).

Floating leaf zone: Nuphar lutea is present.

Submergent zone: A Potamogeton praelongus dominated vegetation type (47) occurs in deeper water. Just outside the reed bed Potamogeton perfoliatus occurs (61) as a dominant species.

Dominant plankton species: A bloom of Microcystis, other eutrophic indicators Anabaena spp., Ceratium hirundinella, cyclic diatoms (Melosira, Cyclotella, Stephanodiscus) are also present.

Ellenberg values		L	T	K	F	R	N
Relevé No.	47	7.5	5.0	5	12	8	5.5
	61	6.5	5.3	4	11.5	7	5.5
Carrickaport Lough		7	5.2	4.5	11.8	7.5	5.5

Relevé details

Relevé No. 47

Location: open water, north west shore
Size: 5 x 2m, Slope: none, Exposure: exposed, Water depth: 1.70 m
Soil: sandy mud with plant remains, woody plant remains in core.

	% Cover	Height (m)	Dominant species
Submergents	60	-	Potamogeton praelongus
Total	60	-	Potamogeton praelongus

Classification: Community of Potamogeton praelongus (Subunit XX).
Remarks: The alga Gloeotrichia sp. occurs abundantly, it forms jelly like globules on old stems.

Relevé No. 61

Location: In sparse Phragmites reed bed, north west shore.
Size: 10 x 5m, Slope: slight, Exposure: exposed, Water depth: 0.75 m
Soil: sandy, with occasional large rocks.

	% Cover	Height (m)	Dominant species
Submergents	40	0.75	Potamogeton perfoliatus
Emergents	5	1.75	Phragmites australis
Total	40	0.75	Potamogeton perfoliatus

Classification: Charetum asperae (Subunit XXV).
Remarks: Gloeotrichia and Stigeoclonium sp. are the most abundant epiphytes of the plant stems. Lots of plankton present amongst this vegetation.

Relevé No. 138

Location: Lake shore
Size: 1x1m , Slope: none, Exposure: exposed, Water depth: 0.02 m
Soil: gravel, stones.

	% Cover	Height (m)	Dominant species
Submergents	70	0.05	Littorella uniflora
Total	70	0.05	Littorella uniflora

Classification: Community of Littorella uniflora and Scirpus lacustris (Subunit XII).

Relevé No. 139

Location: Lake shore
Size: 1x1m , Slope: gentle, Exposure: exposed, Water depth: 0.05 m
Soil: stones.

	% Cover	Height (m)	Dominant species
Submergents	5	0.90	Eleocharis palustris
Total	5	0.90	Eleocharis palustris

Classification: Community of Littorella uniflora and Scirpus lacustris (Subunit XII).
Remarks: In the Scirpus reed swamp (not this relevé) near crossroads an aquatic moss Octodicerns fontanum was growing on rocks in 0.60 m of water. It is a new species to Ireland. At outer edge of this reed swamp Potamogeton crispus, Potamogeton praelongus, Callitriche hermaphroditica, Chara globularis and Nitella flexilis v. flexilis were found.

Name of lake: CORRIB
(½ inch map no. 14)
* location relocated.

Name of lake: Corrib (south part) Lake No. 12

General Information

County: Galway
O.S. ½ inch sheet no. 14
O.S. 6 inch sheet no. 68,69,81,82
Grid Ref: M 294 307
Sampling date: 24.8.77
Drainage order of inflowing stream: 133

Altitude: 9 m
Geology: Limestone
Ecological division: 3
Area: 4000
Max. length: 10.5 km
(south part)

Physico-chemical information (for units see Table 2)

Conductivity:	250	Cl^+	12.1	Max. depth:	50 m
Alkalinity:	0.9	Na^+	8.2	Transparency:	2.20 m
Ca-hardness:	42	K^+	0.29	Max. vegetated depth:	2.30m
Total hardness:	60	Ca^{2+}	22.0	Nature of bottom:	muddy
Total P:	1.12	Mg^{2+}	8.3		marl

Site description and comments

Eastern shore near the Clare River mouth of the southern part of this very large calcareous lake was investigated. 2.30 m was greatest depth, still vegetated.

Emergent zone: Phragmites (113) and Scirpus lacustris (144) reed beds, Sparganium erecta (144, 145) bands present on the landward side of these. Carex lasiocarpa dominated areas (145). Typha latifolia also abundant.

Floating leaf zone: Floating leaf zone absent.

Submergent zone: Chara contraria dominated vegetation types (83,84,85) in deep water. In shallow water short open Chara aspera vegetations occur. Near the shore Cladophora hummocks are built up, containing a lot of carbonate.

Dominant plankton species: mixture of species.

Ellenberg values		L	T	K	F	R	N
Relevé No.	83	6	5	5	12	7	4
	84	6.7	6	4	11.8	6.7	5.8
	85	6.5	5.2	4.4	11.5	6.9	5.8
Lough Corrib		6.4	5.4	4.5	11.8	6.9	5.9

Relevé details

Relevé No. 83

Location: open water
Size:10x10m, Slope: none, Exposure: exposed, Water depth: 2.20 m
Soil: marl

	% Cover	Height (m)	Dominant species
Submergents	80	0.30	Chara contraria
Total	80	0.30	Chara contraria

Classification: Community of Chara contraria (Subunit XXXI).
Remarks: Carbonate deposits on Chara spp., not many actively growing epiphytes.

Relevé No. 84

Location: open water
Size:20x20m, Slope: none, Exposure: exposed, Water depth: 2.30 m
Soil: 10 cm silty marl on marly clay with shell remains.

	% Cover	Height (m)	Dominant species
Submergents	99	0.50	Chara contraria
Total	99	0.50	Chara contraria

Classification: Community of Chara contraria (Subunit XXXI).
Remarks: Coot and swans feeding in this area, some of the vegetation is uprooted and floating. Carbonate deposits on Chara spp., not many actively growing epiphytes.

Relevé No. 85

Location: open water
Size: 5x5m, Slope: gentle, Exposure: sheltered, Water depth:1.20m
Soil: silty marl and marly clay with shell remains.

	% Cover	Height (m)	Dominant species
Submergents	60	0.05	Chara contraria
Total	60	0.05	Chara contraria

Classification: Community of Charetum asperae (Subunit XXV).
Remarks: Anadonta present. Cladophora and Oedogonium spp. (12.5 - 13μ) dominant epiphytic algae.

Relevé No. 113
Location: Phragmites fringe.
Size: 5x1m, Slope: none, Exposure: sheltered, Water depth: 0.03 m
Soil: marl

	% Cover	Height (m)	Dominant species
Submergents	1	-	Chara vulgaris
Emergents	5	1.50	Phragmites australis
Total	5	1.50	Phragmites australis

Classification: Phragmites australis (Subunit IX).

Relevé No. 144
Location: Scirpus fringe.
Size: 5x1 m, Slope: none, Exposure: sheltered, Water depth:0.10m
Soil: silty mud with rocky base.

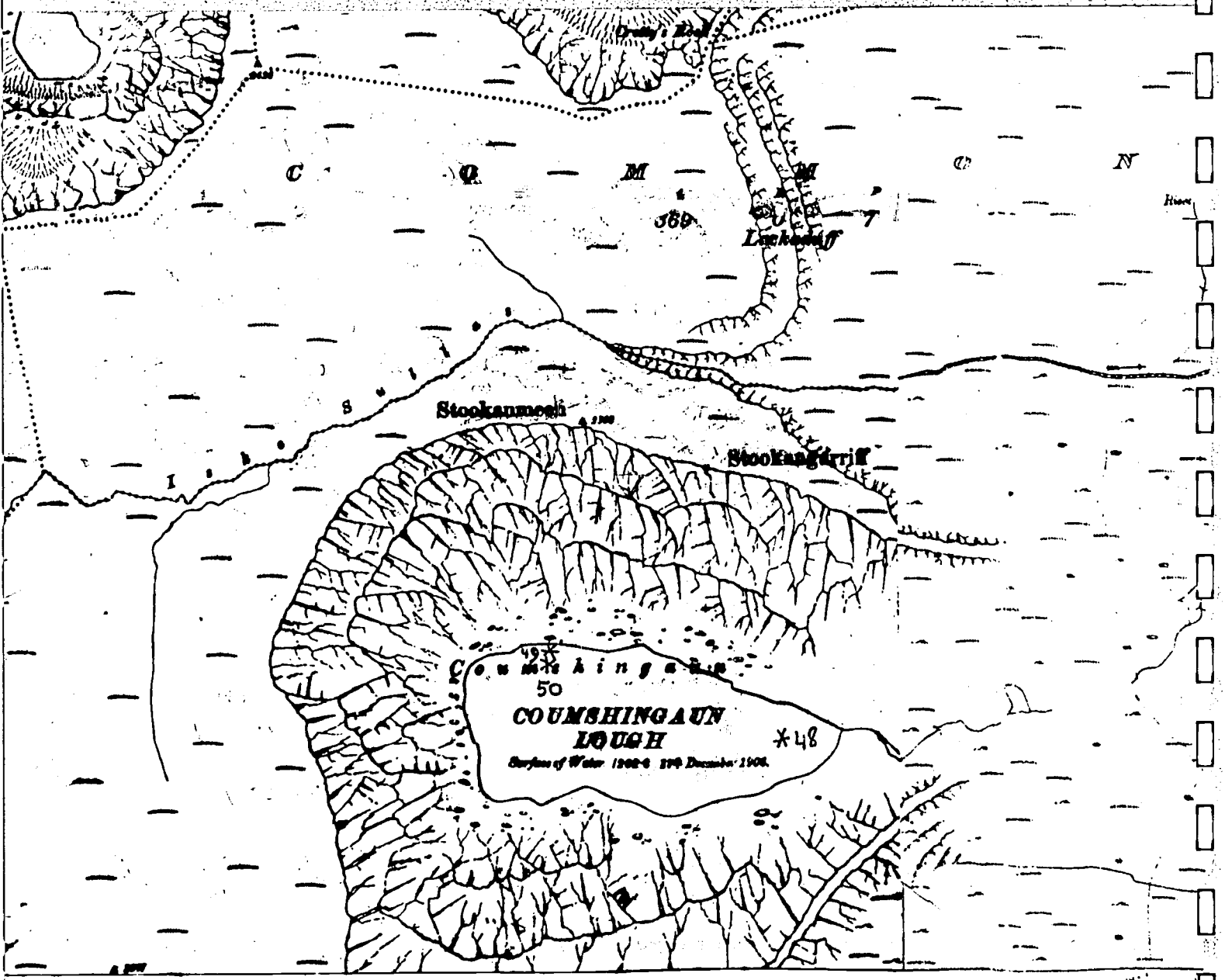
	% Cover	Height (m)	Dominant species
Submergents	70	1.50	Scirpus lacustris
Total	70	1.50	Scirpus lacustris

Classification: Scirpetum lacustris (Subunit XI).
Remarks: On the land side of this relevé is a band of Sparganium erecta (15% cover) with Hippuris vulgaris (5% cover). Ducks and swan present.

Relevé No. 145
Location: rocky inlet on the east shore.
Size: 2 x 1m, Slope: none, Exposure: sheltered, Water depth: 0.20 m
Soil: marl

	% Cover	Height (m)	Dominant species
Submergents	90	0.50	Carex lasiocarpa
Total	90	0.50	Carex lasiocarpa

Classification: Community of Carex lasiocarpa (Subunit III).
Remarks: Beds of Scirpus lacustris occur all around, on the landward side is a band of Sparganium erectum.



2-62.

Name of lake : COUMSHINGAUN
* location relevé.

Name of lake: Coumshingaun Lake No. 13

General Information

County: Waterford
O.S. ½ inch sheet no.: 22
O.S. 6 inch sheet no.: 6, 7
Grid Ref: S 325 109
Sampling date: 2-8-78; 19-9-78
Drainage order of inflowing stream: 0

Altitude: 366.5 m
Geology: Old red sandstone
Ecological division: 2
Area: 30 ha
Max. length: 0.70 km

Physico-chemical information (for units see Table 2)

Conductivity:	48;69	Cl^{-2} 2.84;3.19	Max. depth: very deep
Alkalinity:	0.014;0.023	Na^{+} 5.4;5.7	Transparency: 12.25 m
Ca-hardness:	4;6	K^{+} 0.22;0.25	Max. vegetated depth: 5m
Total hardness:	11;12	Ca^{2+} 2.6;2.6	Nature of bottom: Fine
Total P:	0.166;0.083	Mg^{2+} 1.5;1.4	mud and in shallows rocky

Site description and comments

Corrie lake surrounded by high cliffs, soft clear water with very high transparency. Sparse vegetation grows only up to 5 m depth. This could possibly coincide with summer stratification as otherwise one would expect the vegetation to penetrate to 13 m or so.

Emergent zone: Absent.

Floating leaf zone: Absent.

Submergent zone: Band of Nitella flexilis v. flexilis with occasional patches of Potamogeton polygonifolius (49) up to 2.50 m in depth. From 2.50 - 5 m depth Nitella flexilis v. flexilis (48,50) was only submergent plant. Nostoc parmelioides containing Chironomid larvae and Gammarus sp. growing on rocks in shallow water at east end.

Dominant plankton species: On both sampling dates: Peridinium sp.

Ellenberg values	L	T	K	F	R	N
Coumshingaun	7	6	2	11	3	2

Relevé details

Relevé No. 48

Location: open water, east end
Size: 5x5 m, Slope: gentle, Exposure: exposed, Water depth: 1.75m
Soil: rocky and stony, very thin layer of silt.

	% Cover	Height (m)	Dominant species
Submergents	3	-	Nitella flexilis v. flexilis
Total	3	-	Nitella flexilis v. flexilis

Classification: Community of Nitella flexilis v. flexilis (Subunit XXI a).
Remarks: This community occurred from 1.30 - 5 m depth all around the lake. Nitella flexilis v. flexilis was rooted in a very thin layer of silt overlaying rocks and stones. Tabellaria flocculosa, Bulbochaete and Oedogonium main epiphytes.

Relevé No. 49

Location: open water, north side
Size: 3x 2m, Slope: steep, Exposure: sheltered, Water depth: 2m
Soil: fine mud and some large rocks

	% Cover	Height (m)	Dominant species
Submergents	20	1.50	Potamogeton polygonifolius
Total	20	1.50	Potamogeton polygonifolius

Classification: Community of Nitella flexilis v. flexilis (Subunit XXI a)
Remarks: Potamogeton polygonifolius occurred in a few isolated patches around the lake, mostly on the North side. Bulbochaete main epiphyte.

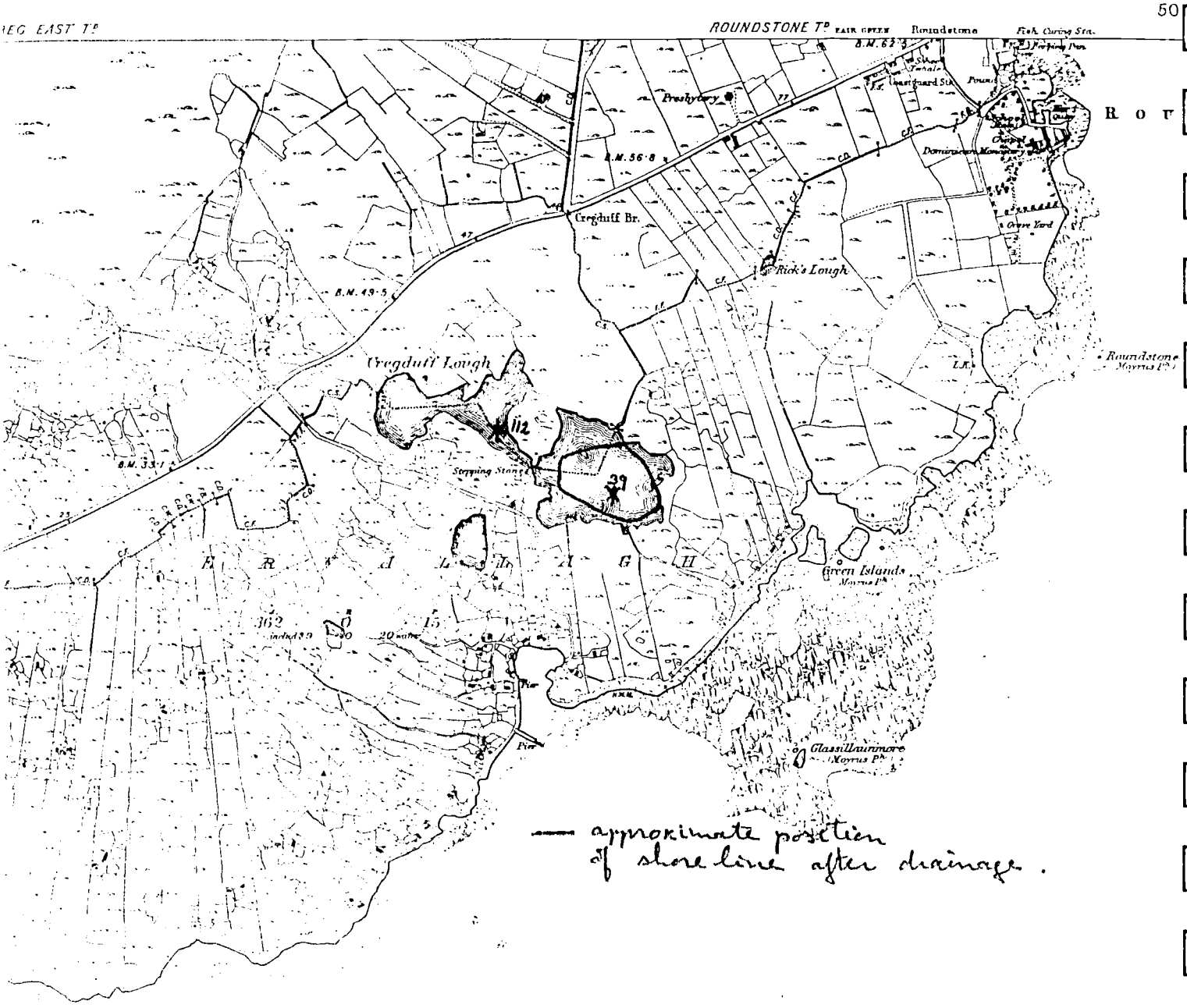
Relevé No. 50

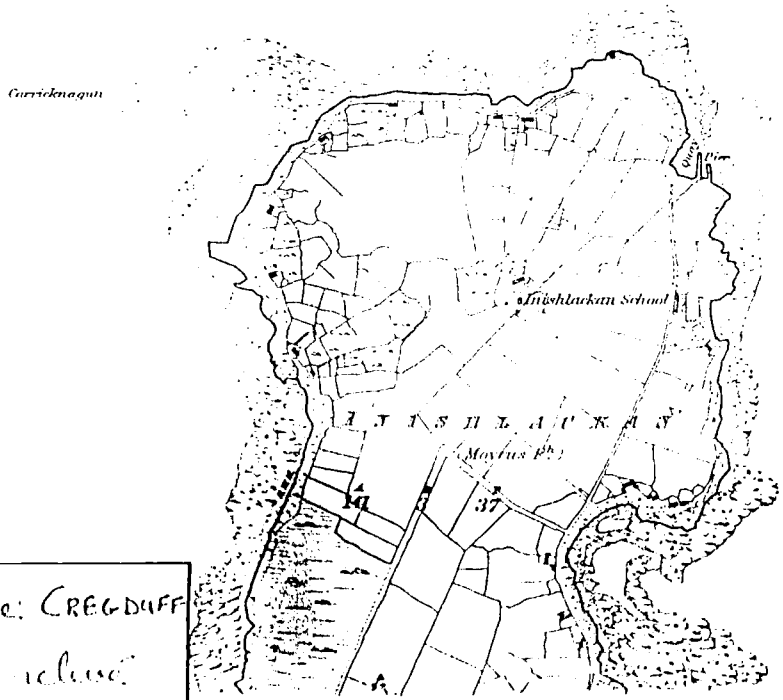
Location: open water, north side
Size: 3x 3m, Slope: gentle, Exposure: exposed, Water depth: 4 m
Soil: fine silt

	% Cover	Height (m)	Dominant species
Submergents	30	0.30	Nitella flexilis v. flexilis
Total	30	0.30	Nitella flexilis v. flexilis

Classification: Community of Nitella flexilis v. flexilis (Subunit. XXIa)

Remarks: Potamogeton band stops at 2.50 m depth. This relevé below it reprensents the msot luxuriant area of Nitella present in the lake.





Name of lake: CREGDUFF

* Location inland

Name of lake: Cregduff Lake No. 14

General Information

County: Galway
O.S. ½ inch sheet no. 10
O.S. 6 inch sheet no. 63
Grid Ref: L 716 392
Sampling date: 12-8-77
Drainage order of inflowing stream: 0

Altitude: 10m
Geology: Granite
Ecological division: 7
Area: 2 ha
Max. length: 0.2 km

Physico-chemical information (for units see Table 2)

Conductivity:	210	Cl^+	-	Max. depth: 3.40 m
Alkalinity:	0.46	Na^+	18.4	Transparency: 1 m
Ca-hardness:	-	K^+	0.44	Max. vegetated depth: 2 m
Total hardness:	-	Ca^{2+}	11.6	Nature of bottom: uncon-
Total P:	0.92	Mg^{2+}	4.0	solidated peaty mud with undecomposed plant debris.

Site description and comments

Small shallow lake close to the sea with unconsolidated mud bottom and brown soft water surrounded by rocky or peaty shores. Small catchment area consisting of peaty rocky ground with heathy vegetation. Lake drained since the last O.S. survey, consists now of two separate pools connected by marshy ground (see relevé 112). The south eastern pool was investigated. Najas flexilis, a rare plant of deep water, occurs in deep and shallow water in this lake. This may be a result of the lowering of the water table as a deep water deposit is now present in the shallows and an open rocky lake margin is missing. The two Chara species occur sparingly. Chara globularis occurs throughout the submergent zone while Chara aspera is mainly a shallow water species.

Emergent zone: Reed fringe with Phragmites (dominant), Scirpus and Sparganium erectum, covering 5% of the shore line.

Floating leaf zone: The floating parts of Potamogeton gramineus cover less than 1% of the water surface. The floating leaf zone is almost absent in this lake.

Submergent zone: Potamogeton gramineus dominant (relevé 39), followed by, in deeper water, Myrophyllum alterniflorum (dominant) and in the deepest parts Najas flexilis (dominant). The submergent zone covers 50% of the lake surface. Green filamentous algae and Asterococcus superbus are the dominant epiphytic species (relevé 39).

Dominant plankton species: small biomass with zooplankton the dominant organisms. Dinobryon and Synedra are the dominant algal species.

Ellenberg values		L	T	K	F	R	N
Relevé No.	39	7.7	4	3.5	12	6	3.3

Relevé details

Relevé No. 39
Location: 5 m off sheltered southern shore
Size: 2x2 m , Slope: gentle, Exposure: sheltered, Water depth: 1.20 m
Soil: very unconsolidated brown peaty mud with much plant debris.

	% Cover	Height (m)	Dominant species
Submergents	9	0.80	Potamogeton gramineus
Total	9	0.80	Potamogeton gramineus

Classification: Community of Najas flexilis and Potamogeton berchtoldii (Subunit XIX).

Relevé No. 112
Location: marsh on former lake bottom on connection between the two pools that Cregduff consists of at present.
Size: 2x2 m , Slope: none, Exposure: sheltered, Water depth: 0.10m
Soil: black mud, probably anoxic, more than 1 m deep.

	% Cover	Height (m)	Dominant species
Submergents	80	1	Carex lasiocarpa
Total	80	1	Carex lasiocarpa

Classification: Carecetum rostratae, subassociation with elements of Littorellion (Subunit IIa).

Name of lake : DOON
* location above

Name of Lake Doon Site No. 15

General Information

County: Galway
O.S. ½ inch sheet no. 10
O.S. 6 inch sheet no. 49
Grid Ref. L 594 430
Sampling date: 9.8.77
Drainage order of inflowing stream: 0

Altitude: 7m
Geology: Gneiss
Ecological division: 7
Area: 6 ha
Max Length: 0.35 ha

Physico-chemical information (for units see Table 2)

Conductivity:	490	Cl^+	-	Max depth: 11.30m
Alkalinity:	1.5	Na^+	23.8	Transparency: 1.66 m
Ca-hardness:	-	K^+	0.75	Max vegetated depth: 5m
Total hardness:	-	Ca^{2+}	30.0	Nature of bottom: silty
Total P:	0.95	Mg^{2+}	12.5	sand, on shores rocky

Site description and comments

Small coastal lake with very hard water and high in sodium (not brackish however). Shallow margin, areas especially in south sloping abruptly into deeper water, steep sloping in the centre and north. Surrounding land rocky and heathy. Influenced by wind blow sand from neighbouring dunes. Water brownish.

Emergent zone: Takes up less than 5% of lake surface. Reed beds dominated by Scirpus lacustris (142), Berula erecta (103), Phragmites australis, Equisetum fluviatile (127), Eleocharis palustris or Typha latifolia (143) occur on the Eastern and Southern shores or in sheltered inlets.

Floating leaf zone: Takes up less than 5% of lake surface. Area of Nymphaea alba (56); Potamogeton natans occurs outside as well as inside reed fringe; area of Polygonum amphibium occurs in sheltered inlet with Eleocharis and Sparganium erectum.

Submergent zone: Takes up 50% of lake surface. At 1 m depth Nitella flexilis v. flexilis f. obtusa occurs. Fontinalis

antipyretica and Potamogeton praelongus are also common at this depth. Myriophyllum spicatum dominates between 1-4m depth and Chara rudris is common here. Deeper than 4m Potamogeton pectinatis is dominant and Chara fragilis is common.

Dominant plankton species few algal species, lots of zooplankton.

Ellenberg Values		L	T	K	F	R	N
Relevé no.	56	6	7	-	12	8	8
	57	5.5	-	5	12	7.5	7
	127	7	4	5	11	7	5.5
Doon Lough		6.2	5.5	5	11.7	7.5	6.8

Relevé details

Relevé No. 56

Location: floating leaf zone, north-east shore
Size: 2 x 2m, Slope: gentle, Exposure: sheltered, Water depth: 2.70m
Soil: silt

	% Cover	Height(m)	Dominant species
Floating leaf	100	2.70	Nymphaea alba
Emergents	20	1	Equisetum fluviatile
Total	100	2.70	Nymphaea alba

Classification: Sociation of Nymphaea alba (Subunit XXII)
Remarks: No submergents under the floating leafs of the water lily, except Cladophora very abundant. In shallow water nearer the shore the following species occur: Pot. pectinatus, Ranunculus trichophyllus, Chara rudris, Chara fragilis, Pot. natans, Pot. gramineus, Littorella uniflora, Pot. berchtoldii and Fontinalis antipyretica. Fontinalis antipyretica occurs in deep water with a cover of 100%.

Relevé No. 57

Location: open water

Size: 1 x 1m, Slope: steep, Exposure: exposed, Water depth: 1.50m
Soil: silty sand (peat and shell remains present)

	% Cover	Height(m)	Dominant Species
Submergents	85	0.30	Myriophyllum spicatum
Total	85	0.30	Myriophyllum spicatum

Classification: Charetum asperae (Subunit XXV)
Remarks: Cladophora main algal species. Myriophyllum occurs from 0.60 - 1.80m depth. Potamogeton pectinatus mostly in deeper water. Fontinalis antipyretica and Potamogeton praelongus occur between this relevé and the shore.

Relevé No. 103

Location: On Eastern shore
Size: 2 x 1m, Slope: none, Exposure: sheltered, Water depth: 0.25m
Soil: rocky

	% cover	Height (m)	Dominant species
Floating leaf	1	0.25	Lemna minor
Emergents	60	1.50	Berula erecta and Scirpus lacustris
Total	60	1.50	Berula erecta and Scirpus lacustris

Classification: Community of Berula erecta and Scirpus lacustris (Subunit VI)
Remarks: This band on the landward side of Scirpus Bed, next band (landinward) is dominated by Carex nigra.

Relevé No. 127

Location: Equisetum fringe on Southern shore.
Size: 2 x 1m, Slope: none, Exposure: sheltered, Water depth: 0.40 m
Soil: rocks and muddy marl

	% cover	Height (m)	Dominant species
Submergents	5	-	Fontinalis antipyretica
Floating Leaf	5	0.40	Potamogeton natans
Emergents	25	0.70	Equisetum fluviatile
Total	35	0.70	Equisetum fluviatile

Classification: Community of Potamogeton natans, (Subunit XXIV).

Name of Lake: Doon Lake No. 15

Relevé No. 142

Location: Scirpus fringe on Eastern shore
Size: 5 x 5m, Slope: none, Exposure: Sheltered, Water depth: 0.30m
Soil: marly mud

	% cover	Height(m)	Dominant species
Submergents	5	-	Potamogeton coloratus
Emergents	45	2	Scirpus lacustris
Total	50	2	Scirpus lacustris

Classification: Scirpetum lacustris (Subunit XI)
Remarks: Coots and moorhens present in the lake.

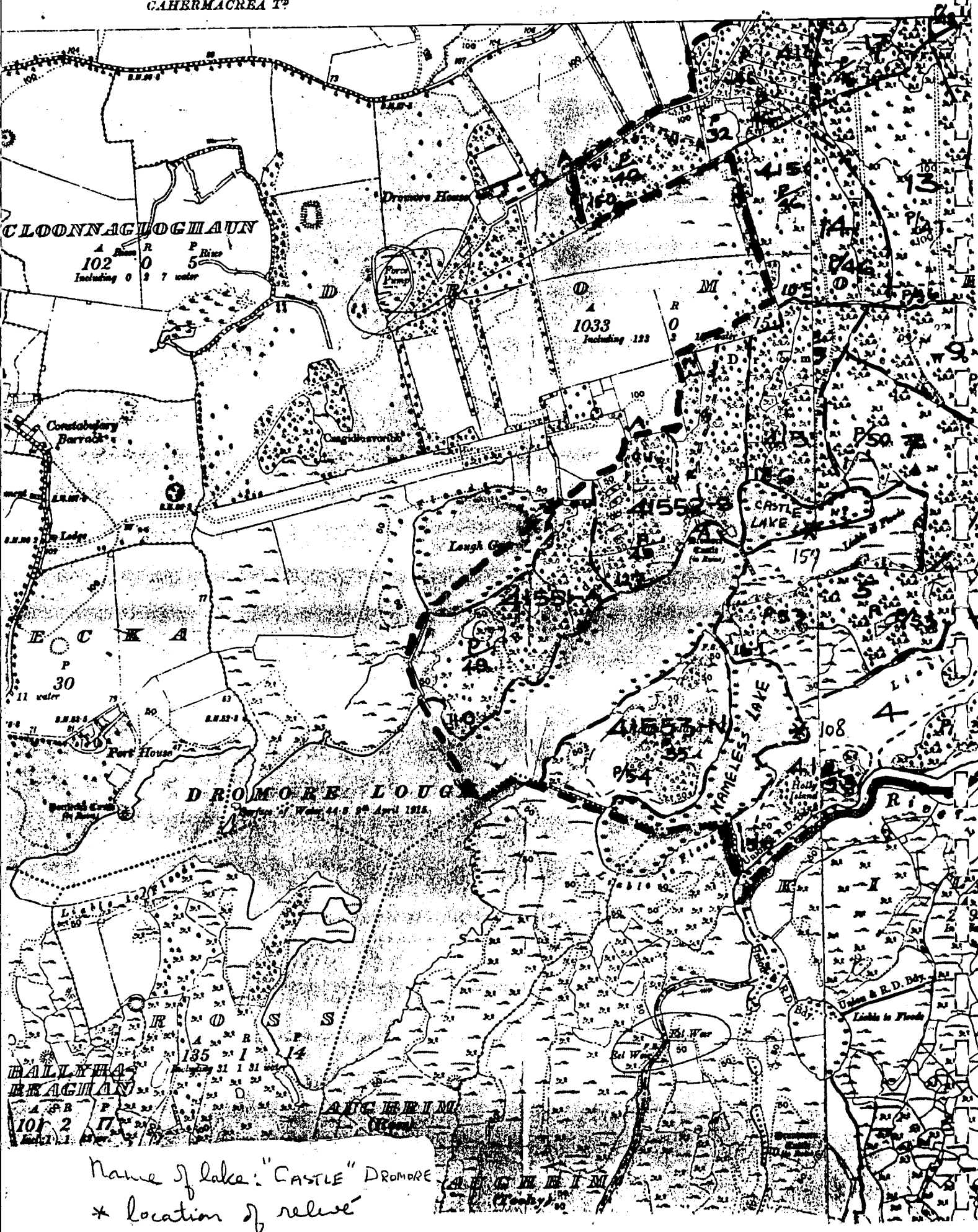
Relevé No. 143

Location: Typha fringe on South-eastern shore.
Size: 2 x 1m, Slope: none, Exposure: sheltered, Water depth: 0.70m
Soil: rocky and marly mud

	% cover	Height(m)	Dominant species
Floating leaf	25	0.70	Potamogeton natans
Emergents	25	1.50	Typha latifolia
Total	50	1.50	Potamogeton natans and Typha latifolia

Classification: Typhetum latifoliae (Subunit VII)

CLARE. SHEET 25.



Name of lake: "CASTLE" DROMORE

* location of relevé

Name of Lake: "Castle" Dromore Lakes No. 16

General Information

County: Clare
O.S. ½ inch sheet no. 14
O.S. 6 inch sheet no. 25,26
Grid reference: R 350 862
Sampling date: 30-8-78
Drainage order of inflowing stream: 0

Altitude: 13.5m
Geology: limestone
Ecological division:4
Area: 114 ha
Max length:0.2km

Physico-chemical information (for units see Table 2)

Water not analysed.
Conductivity: 340

Max. depth:7.30m
Transparency:2.60m
Max vegetated depth: -
Nature of bottom:
Marl, rocky on shores

Site description and comments

Small shallow eutrophic lake. Scirpus lacustris on northern shore. Other aquatic plants include Nuphar lutea, Elodea canadensis, Lemna trisulca and Potamogeton lucens, Chara rudris, Ceratophyllum demersum, Potamogeton friessii. The stream connecting Nameless lake to Dromore Lough contains Butomus umbellatus, Hippuris vulgaris, Phragmites and Scirpus lacustris. Nameless lake (108) contains the following aquatic species. Elodea canadensis, Fontinalis antipyretica, Nuphar lutea, Nymphaea alba, Potamogeton lucens, Potamogeton perfoliatus and Chara rudris. Nameless lake had a plankton bloom also.

Emergent zone: Scirpus fringe

Floating leaf zone: Nuphar lutea

Submergents zones: Littorella uniflora dominated vegetation (59) landward of Scirpus fringe. Other submergents include: Lemna trisulca, Elodea canadensis, Potamogeton lucens, Ceratophyllum demersum, Chara rudis and Potamogeton friesii.

Dominant plankton species: Very dense plankton, mostly consisting of Ceratium hirundinella, Peridinium also very abundant (bloom).

Relevé No. 159

Location: shore, landward of Scirpus fringe
Size: 3 x 1m, Slope: none, Exposure: sheltered, Water depth: 0.40m
Soil: rock and marl

	%cover	Height(m)	Dominant species
Submergents	30	0.05	Littorella uniflora
Emergents	21	1.50	Scirpus lacustris
Total	30	0.05	Littorella uniflora

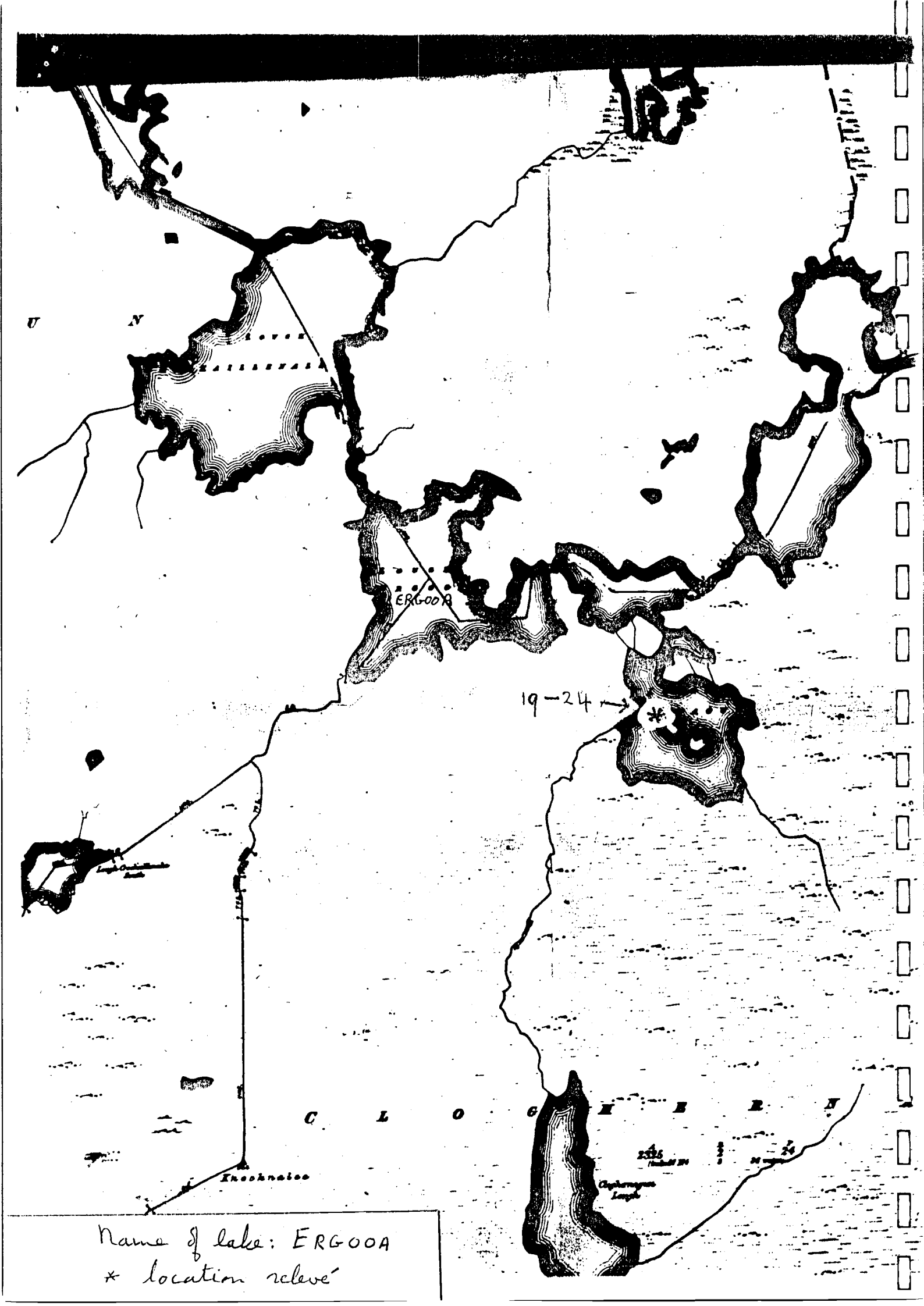
Classification: Community of Littorella uniflora and Scirpus lacustris (Subunit XII)

Relevé No. 108 (Nameless lake)

Location: reed fringe, Nameless lake, Dromore
Size: , Slope: , Exposure: , Water depth: 0.05
Soil: rootmat

	% cover	Height (m)	Dominant species
Emergents	50	2	Sparganium erectum and Menyanthes
Total	50	2	Sparganium erectum and Menyanthes trifoliata.

Classification: Carecetum rostratae (Subunit II b).



Name of lake: ERGOOA
* location relevé

Name of Lake: Ergooa Lake No. 17

General information

County: Galway
O.S. ½inch sheet no. 14
O.S. 6 inch sheet no. 79
Grid ref: M 057 283
Sampling date: 27-9-78
Drainage order of inflowing stream: 2

Altitude: between 90-120m
Geology: Granite
Ecological Division: 1
Area: 40 ha
Max length: 0.5 km

Physico-chemical information (for units see Table 2)

Conductivity:	92	Cl^-	4.97	Max. depth: 1.70m
Alkalinity:	0.005	Na^+	11.4	Transparency: >depth
Ca hardness:	6	K^+	0.46	Max vegetated depth: 1.70m
Total hardness:	13	Ca^{2+}	1.6	Nature of bottom: fine silt over hardpan or peat. Peaty on rocky shores.
Total P:	0.021	Mg^{2+}	1.4	

Site description and comments

Shallow soft water lake in large blanket bog area. Much of bottom covered by iron pan. Perhaps was originally covered by bog which has been eroded away. The lake is unusually rich in aquatic macrophytes.

Emergent zone: small patches of sparse Phragmites australis (24) or Eleocharis multicaulis (20,21) or Carex rostrata (22).

Floating leaf zone: sparse Potamogeton polygonifolius and/or Nymphaea alba (22,24).

Submergent zone: Lobelia dortmanna (20) or Eriocaulon aquaticum (19,22,24) dominant. In the deeper water (1.70m) Juncus bulbosus and Scirpus fluitans are dominant (23). In some adjacent bog lakes which may be deeper there is probably an Isoetes zone because much Isoetes seen washed up on shore.

Dominant plankton species: The filamentous green algae Mougeotea 12 16u is dominant, this filamentous benthic alga is stirred up into the plankton in this shallow exposed lake.

Ellenberg Values		L	T	K	F	R	N
Relevé No:	19	7.3	4.7	2.0	11.0	4.3	2.2
	20	7.4	5.0	2.0	10.2	4.0	1.4
	21	7.3	5.0	2.5	9.7	5.1	2.7
	22	7.7	4.8	2.0	10.4	4.8	3.1
	23	7.5	5.0	2.0	12.0	4.3	3.0
	24	7.3	5.0	2.8	10.9	5.6	3.9
Lough Ergooa		7.4	4.9	2.2	10.7	4.7	2.7

Relevé details

Relevé No. 19

Location: open water
Size: 10x10m, Slope: none, Exposure: exposed, Water depth: 1m
Soil: fine mud over hardpan.

	%cover	Height(m)	Dominant species
Submergents	75	0.10	Eriocaulon aquaticum
Total	75	0.10	Eriocaulon aquaticum

Classification: Eriocaulo - Lobelietum, subassociation with Eleocharis multicaulis and Utricularia intermedia (Subunit XV c).
Remarks: Pieces of Eriocaulon mat break away and open ground is invaded by other species. Tabellaria flocculosa dominant and epiphytic alga.

Relevé No. 20

Location: open water
Size: 15x3m, Slope: none, Exposure: exposed, Water depth: 0.50m
Soil: rocks, stones and gravel.

	%cover	Height(m)	Dominant species
Submergents	5	0.03	Lobelia dortmanna
Total	5	0.03	Lobelia dortmanna

Classification: Eriocaulo - Lobelietum, subassociation with Eleocharis multicaulis and Utricularia intermedia (Subunit XV c).
Remarks: Elatine hexandra is rooting in gravel.

Relevé No. 21

Location: sparse reed fringe
Size: 5 X 3 m, Slope: none, Exposure: sheltered, Water depth: 0.30-0.50m.
Soil: rocky and silty

	% Cover	Height (m)	Dominant species
Submergents	3	0.50	Eleocharis multicaulis
Emergents	1	0.80	Eleocharis multicaulis
Total	4	0.50	Eleocharis multicaulis

Classification: Eriocaulo-Lobelietum subassociation with Eleocharis multicaulis and Utricularia intermedia (Subunit XV c)
Remarks: This vegetation type is better developed in more sheltered bays where Eriocaulon and Lobelia occur more frequently. Eleocharis multicaulis tends to be viviparous.

Relevé No. 22

Location: sparse reed fringe
Size: 10 X 5m, Slope: none, Expossure: Water depth: 0.5-0.60 m
Soil: silty over iron hard pan

	% Cover	Height (m)	Dominant species
Submergents	80	0.50	Eriocaulon aquaticum
Floating leaf	1	0.50	Potamogeton polygonifolius
Emergents	5	0.75	Carex rostrata
Total	85	0.70	Eriocaulon aquaticum

Classification: Eriocaulo-Lobelietum, subassociation with Eleocharis multicaulis and Utricullaria intermedia (Subunit XV c)
Remarks: Possibly a current present here.

Relevé No. 23

Location: deepest vegetated area, open water
Size: 5 X 5 m, Slope: none, Exposure: exposed, Water depth: 1.70m
Soil: silty

	% Cover	Height(m)	Dominant species
Submergents	30	0.35	Juncus bulbosus and Scirpus fluitans
Total	30	0.35	Juncus bulbosus and Scirpus fluitans

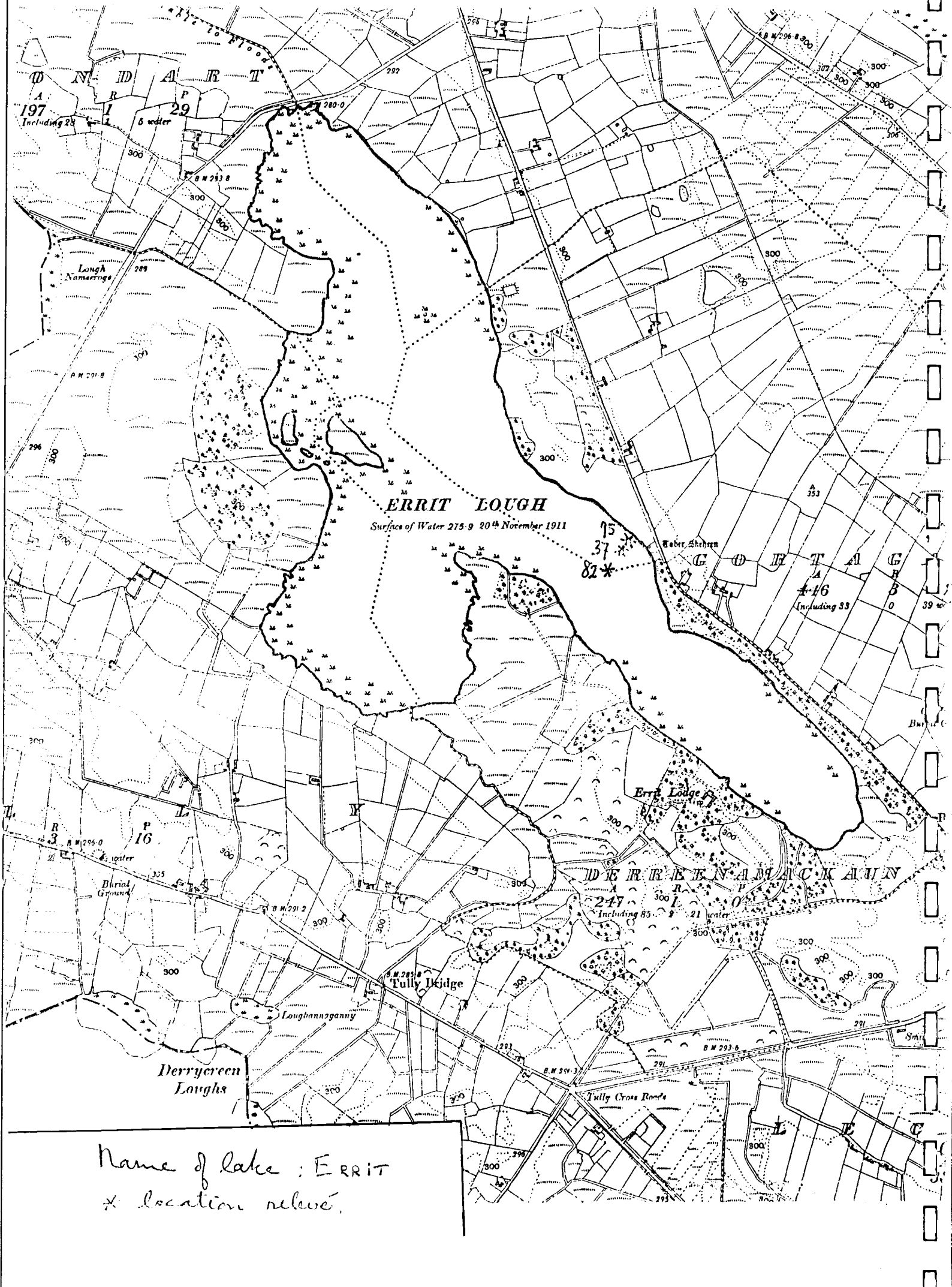
Classification: Community of Isoetes lacustris (Subunit XVII)
Remarks: The iron hardpan was not present here.

Relevé No. 24

Location: sparse reed fringe
Size: 10 X 5m, Slope: none, Exposure: sheltered, Water depth: 1m
Soil: peat

	% Cover	Height (m)	Dominant species
Submergents	30	0.05	Eirocaula aquaticum
Floating leaf	1	1	Nymphara alba and Potamogetan polygonifolius
Emergents	1	1m	Phragmites australis
Total	30		Eriocaula aquaticum

Classification: Eriocaulo-Lobelietum, subassociation with Eleocharis multicaulis and Utricularia intermedia (Subunit XV c)



Name of lake : ERRIT

* location relevé.

Name of lake: Errit Lake No. 18

General Information

County: Roscommon
O.S. 1/2 inch sheet no. 11
O.S. 6 inch sheet no. 19
Grid ref: M 542 850
Sampling date: 19/8/78
Drainage order of inflowing stream: 1

Altitude: 84 m
Geology : limestone
Ecological division: 3
Area: 160 ha
Max length: 2.1 km.

Physico-chemical information (for units see table 2)

Conductivity: 228	Cl^-	1.77	Max. depth: -
Alkalinity: -	Na^+	7.3	Transparency: -
Ca - hardness: 82	K^+	0.72	Max vegetated depth: 4m
Total hardness: 92	Ca^{2+}	26.9	Nature of bottom: sandy
Total P: 0.146	Mg^{2+}	2.8	marl, rocky at shores.

Site description and comments

Calcareous clear water lake with rocky shores.

Emergent zone: Sparse stands of Scirpus lacustris, Phragmites australis and Carex rostrata/Eleocharis palustris occur on South-West shore.

Floating leaf zone: Nuphar lutea occurs sparsely at a depth of 2.70 m. Very few leaves reach the surface, petioles are 2.70 m long. Other leaves are of submergent type.

Submergent zone: In shallow water (up to 1 m) Chara polyacantha is dominant. Chara rudris occurs also and is more dominant in the south end of the lake (more sheltered). Here it occurs throughout all depths. Between 1-2 m Chara desmacantha is dominant. From 2 - 3 m Chara fragilis is dominant. At lower edge of this band Nupthar lutea occurs. At 4 m depth Potamogeton perfoliatus grows on bare mud.

Dominant plankton species: Microcystis sp.

Ellenberg values		L	T	K	F	R	N
Relevé No.	37	6.8	4	3.5	11.2	7.5	3.3
	82	-	-	-	-	-	-
	95	8	-	-	10	8	1
Errit Lough		7.4	4	3.5	10.6	7.8	2.2

Relevé details

Relevé No. 37

Location: open water
Size: 10 x 3m; Slope: none, Exposure: exposed, Water depth: 1m;
Soil: sandy marl

	% Cover	Height(m)	Dominant species
Submergents	60	-	Chara desmacantha and Littorella uniflora
Total	60	-	Chara desmacantha and Littorella uniflora

Classification: Community of Chara desmacantha (Subunit XXX).
Remarks: The Chara desmacantha and Littorella uniflora form a mazaic: where one is absent, the other is dominant and vice versa. Epiphytes on Chara mostly Cymbella spp., Gomphonema spp. and Navicula spp.

Relevé No. 82

Location: open water
Size: 5 x 5m, Slope: gentle, Exposure: exposed, Water depth: 2m,
Soil: sandy marl

	% Cover	Height(m)	Dominant species
Submergents	90	0.30	Chara fragilis
Total	90	0.30	Chara fragilis

Classification: Sociation of Chara fragilis (Subunit XXIX).
Remarks: Open areas occur scattered at random. At about 2.7 m, Nuphar lutea occurs. With a few floating leaves with petioles of 2.70m! Where group of these plants occur Chara is sparse or

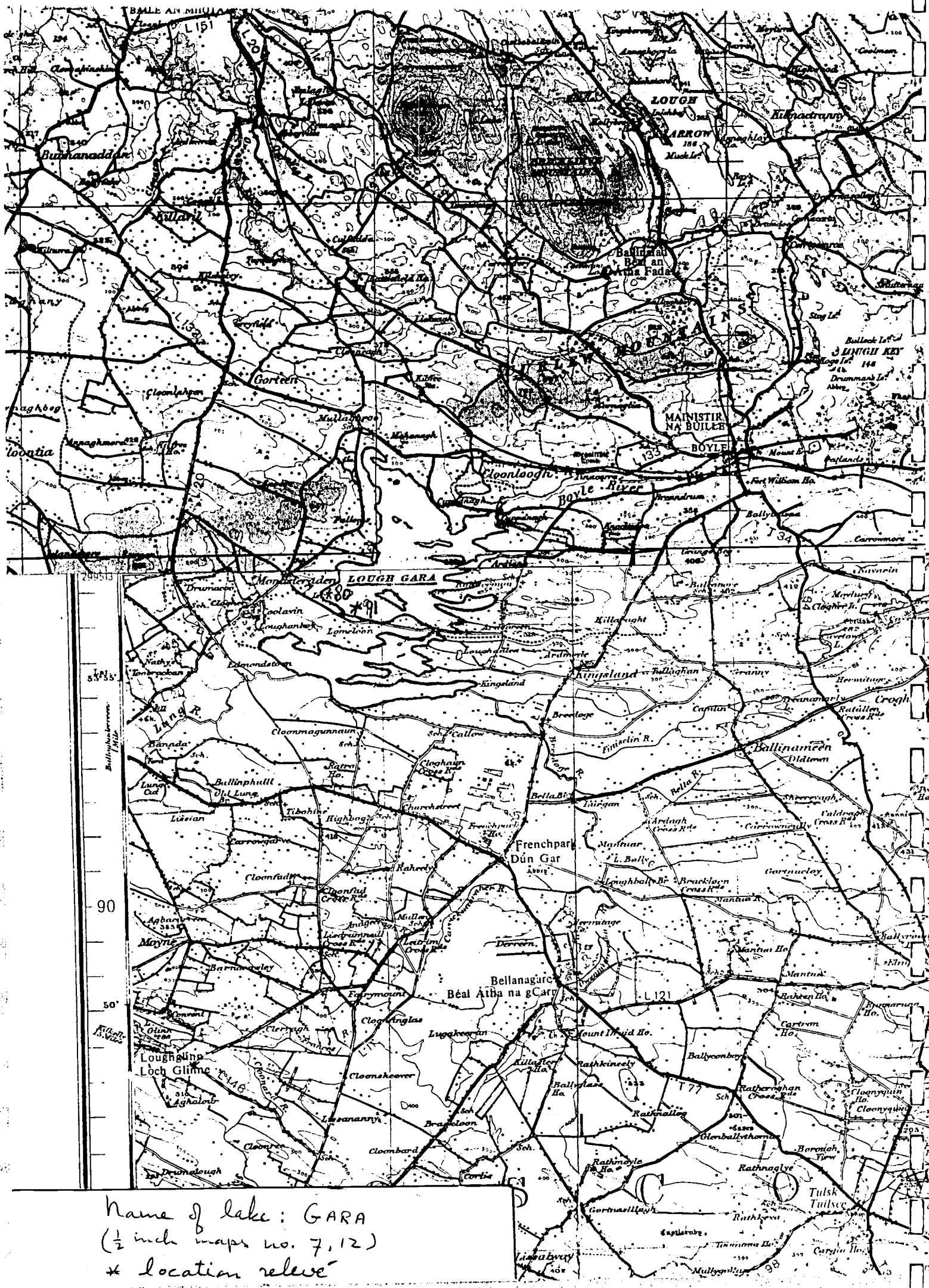
absent. Potamogeton perfoliatus occurs in deeper water up to 4m, on bare mud. Epiphytes on Chara mostly Cymbella spp. and Gomphonema spp.

Relevé No. 95

Location: shallow open water
Size: 2 x 1m, Slope: gentle, Exposure: exposed, Water depth: 0.50m
Soil: sandy marl with large rocks

	% Cover	Height(m)	Dominant species
Submergents	40	0.25	Chara polyacantha
Total	40	0.24	Chara polyacantha

Classification: Community of Chara aculeolata (Subunit XXXII)
Remarks: Epiphytic algae on Chara mostly diatoms, Cymbella sp. dominant.



Name of lake: GARA
($\frac{1}{2}$ inch maps no. 7, 12)
* location relevé

Name of Lake: Gara Lake No. 19

General Information

County: Sligo/Roscommon
O.S. ½ inch sheet no: 7,12
O.S. 6 inch sheet no:
Grid Ref:
Sampling date: 17.8.78
Drainage order of inflowing stream: 27 (Lung River)

Altitude:
Geology: mostly limestone some sandstone shales and slates
Ecological division: 3
Area: 930 ha
Max length: 5.5 km

Physico-chemical information (for units see Table 2)

Conductivity:	395	Cl^+	2.84	Max depth: 1.90m (in bay)
Alkalinity:	0.35	Na^+	11.5	Transparency: 1.50 m
Ca-hardness:	84	K^+	1.12	Max vegetated depth: 1.90m
Total hardness:	96	Ca^{2+}	29.9	Nature of bottom:
Total P:	0.208	Mg^{2+}	3.2	Marl and sand, stony on exposed shores.

Site description and comments

Large exposed marl lake, with hard water, lake level lowered about 1.20m. Old shoreline still clearly visible.

Emergents zone: Phragmites fringe on the lakeward side. Equisetum fluviatile dominated vegetation (80) and Eleocharis palustris dominated areas.

Floating leaf zone: not present.

Submergent zone: Sparse plants of Chara fragilis, Potamogeton pectinatus, Uticularia neglecta and Tolypella nidifera v. glomerata (91).

Dominant plankton species: Microcystis, 2 spp.

		L	T	K	F	R	N
Ellenberg Values							
Relevé No.	80	8	4	-	10	-	5
	91	8	6	2	12	5.5	5
Lough Gara		8	5	2	11	5.5	5

Relevé Details

Relevé No. 80

Location: emergent fringe in bay on south side of lake
Size: 5 x 5m , Slope: none, Exposure: exposed, Water depth: 0.10m
Soil: Marly sand

	% Cover	Height(m)	Dominant species
Submergents	10	-	Potamogeton filiformis
Emergents	40	0.75	Equisetum fluviatile
Total	40	0.75	Equisetum fluviatile

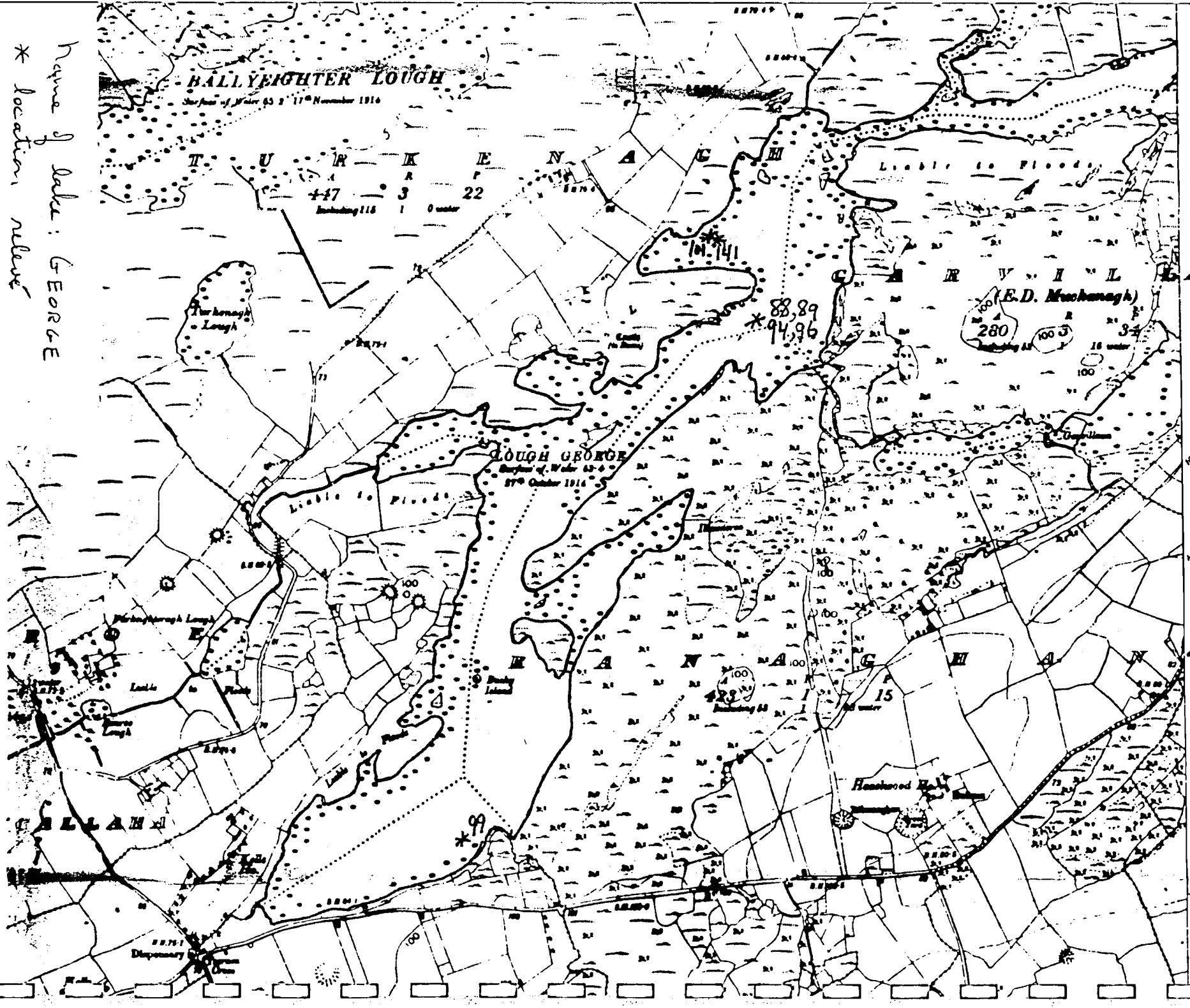
Classification: Community of Potamogeton filiformis (Subunit XXVII)
Remarks: Rivularia sp. dominant epiphyte, grows on Equisetum stems.

Relevé No.91

Location: in large bay in open water, south side lake.
Size: 5x5m , Slope: none, Exposure: exposed, Water depth: 1.10m
Soil: marl

	% Cover	Height(m)	Dominant species
Submergents	5	0.05	Chara fragilis and Tolypella nidifera v. glomerata
Total	5	0.05	Chara fragilis and Tolypella nidifera v. glomerata

Classification: Community of Chara fragilis and Tolypella nidifera v. glomerata (Subunit XXVIII).
Remarks: Very few algal epiphytes.



name of lake: GEORGE
* location value

Name of Lake: George Lake No. 20

General Information

County: Clare
O.S. ½ inch sheet no. 14
O.S. 6 inch sheet no. 17
Grid Ref: R 340 917
Sampling Date: 29.8.78
Drainage order of inflowing stream: 4

Altitude: 19m
Geology: Limestone
Ecological division: 4
Area: 125
Max Length: 2 km

Physico-chemical information (for units see Table 2)

Conductivity:	362	Cl^+	3.19	Max depth: -
Alkalinity:	0.32	Na^+	10.8	Transparency: 5m
Ca-hardness:	86	K^+	1.4	Max vegetated depth: 5m
Total hardness	111	Ca^{2+}	28.5	Nature of bottom: marl,
Total P:	0.042	Mg^{2+}	6.7	rocky and peaty on shores.

Site description and comments

Large clear water limestone lake with intricate shore line and many sheltered bays.

Emergent zone: Going lakeward vegetation is dominated by Schoenus nigricans, Cladium mariscus (101.141) and Phragmites australis.

Floating leaf zone: Nuphar lutea (94)

Submergent zones: Dominated by from shallow to deep: Chara desmacantha (96), Chara rudris (94), Chara contraria: with (88) and without (89) Chara rudris. At greatest depth only algae grow: Oscillatoria mat (1.5μ) mixed in with diatom species (mainly Navicula).

Dominant plankton species: Chroococcus, sheaths not striated >8 <16 μ

Ellenberg Values		L	T	K	F	R	N
Relevé No:	94	7.5	4.5	4.0	11.5	7.0	5.7
	96	7.5	5	3	10.5	7	5
	99	6.5	6	2	11.5	6.8	3.7
Lough George		7.2	5.2	3	11.2	6.9	4.8

Relevé details

Relevé No. 88

Location: open water
Size: 4 x 1m, Slope: steep, Exposure: sheltered, Water depth: 4m
Soil: marl

	% Cover	Height(m)	Dominant species
Submergents	95	0.05	Chara contraria
Total	95	0.05	Chara contraria

Classification: Community of Chara contraria (Subunit XXXI)
Remarks: Cymbella, Navicula and Gomphonema dominant epiphytes on Chara.

Relevé No. 89

Location: open water
Size: 4 x 4m, Slope: steep, Exposure: sheltered, Water depth: 5m
Soil: marl

	% cover	Height(m)	Dominant species
Submergents	100	0.05	Chara contraria
Total	100	0.05	Chara contraria

Classification: Community of Chara contraria (Subunit XXXI)
Remarks: Chara contraria had slightly larger spines than usual. Eunotia and Gomphonema dominant epiphytes in Chara. At 5.50m depth a mat of bluegreen algae grows directly on the marl consisting of Oscillatoria sp. (1.5μ) and a mixture of diatoms, Navicula mainly.

Relevé No. 94

Location: open water
Size: 4 x 1, Slope: steep, Exposure: sheltered, Water depth: 1.80m
Soil: marl

	% cover	Height(m)	Dominant species
Submergents	100	-	Chara rudris
Floating leaf	10	1.80	Nuphar lutea
Emergents	1		Scirpus lacustris
Total	100		Chara Rudris

Classification: Community of Chara contraria (Subunit XXXI)
Remarks: This vegetation occurs between 1.20 - 2.70m depth. In the nearby sheltered bay Chara tomentosa is more abundant and Chara rudris, Chara delicatula and Hippuris vulgaris occurs also. Navicula and Cymbella spp dominant epiphytes on Chara. A mat of mainly Oscillatoria (1.5-2μ) grows on marl underneath Nuphar plants.

Relevé No. 96

Location: shallow water near shore
Size: 3 x 1m, Slope: gentle, Exposure: sheltered, Water depth: 0.50m
Soil: marl

	% cover	Height(m)	Dominant species
Submergents	100	-	Chara desmacantha
Total	100	-	Chara desmacantha

Classification: Community of Chara desmacantha (Subunit XXX)
Remarks: Navicula and Cymbella dominant epiphytes on Chara.

Relevé No. 99
Location: South shore
Size: 1 x 3m , Slope: gentle, Exposure: exposed, Water depth: 0.90 - 1.20m
Soil: soft marl

	% cover	Height(m)	Dominant species
Submergents	40	-	Littorella uniflora
Total	40	-	Littorella uniflora

Classification: Community of Chara and Juncus bulbosis f. fluitans (Subunit XIV)
Remarks: Relevé taken on 22.8.84. Nuphar lutea occurred at the lower edge of this zone.

Relevé No. 101

Location: Cladium mariscus fringe, landward of 141
Size: 2 x 1m, Slope: none, Exposure: sheltered, Water depth: 0.05m
Soil: peaty clay

	% cover	Height(m)	Dominant species
Emergents	10	1	Cladium mariscus
Total	10	1	Cladium mariscus

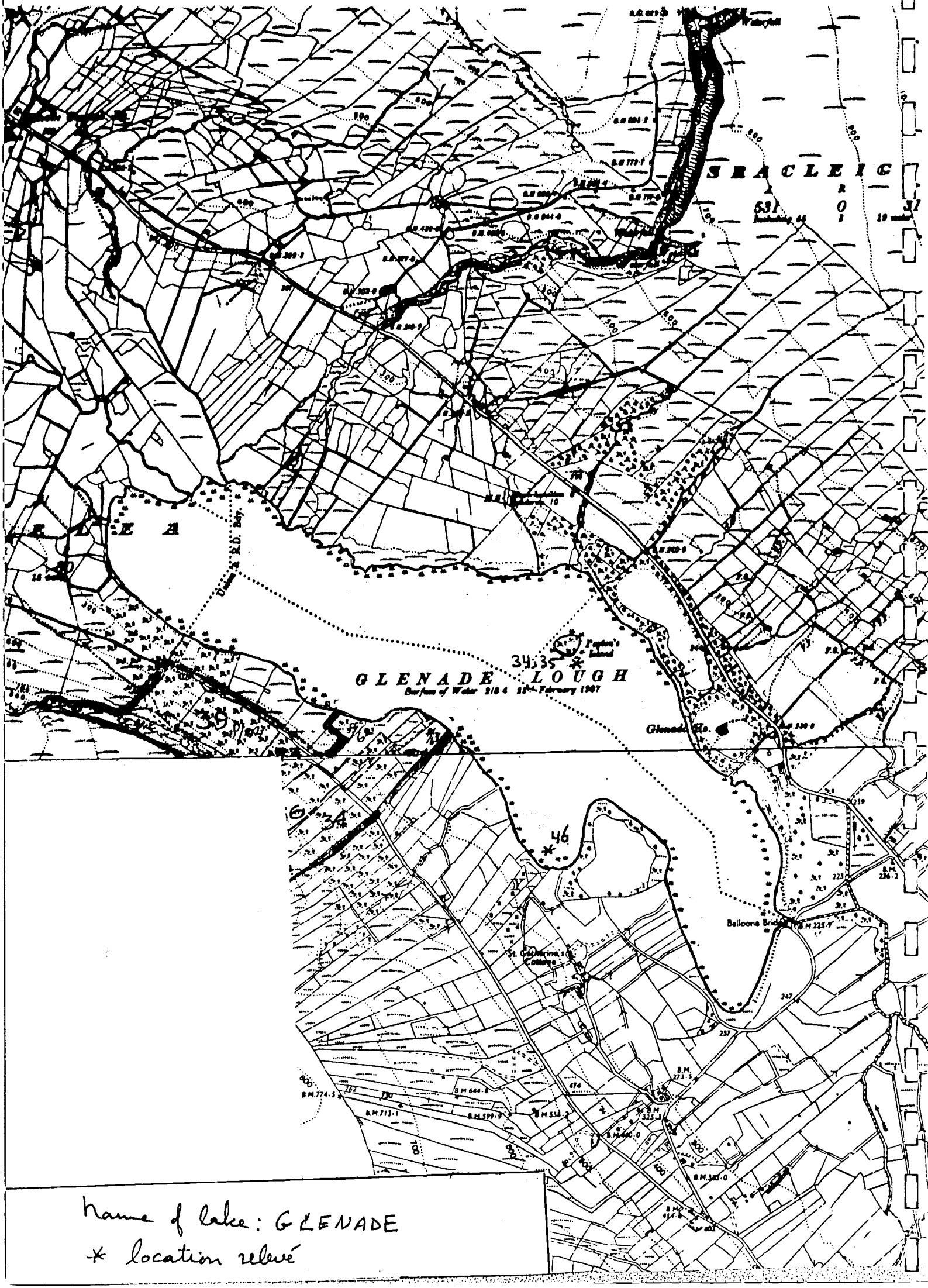
Classification: Cladietum marisci (Subunit IV)

Relevé No. 141

Location: Cladium mariscus dominant fringe, lakeward of 101
Size: 2 x 1m, Slope: none, Exposure: sheltered, Water depth: 0.20
Soil: peat

	% cover	Height (m)	Dominant species
Floating leaf	1	0.20	Nymphaea alba
Emergents	60	3	Cladium mariscus
Total	60	3	Cladium mariscus

Classification: Cladietum marisci (Subunit IV)



Name of lake: GLENADE

* location relevé

Name of Lake Glenade Lake No: 21

General information

County: Leitrim
O.S. ½ inch sheet no. 7
O.S. 6 inch sheet no. 4, 7
Grid. ref. : G 828 461
Sampling date: 21/7/78 and 14/9/78
Drainage order of inflowing stream: 6

Altitude: 66.6 mO.S. 1/2
Geology : limestone
Ecological division: 4
Area : 170 ha.
Max length: 1.9 ha.

Physico-chemical information (for units see Table 2)

Date	21.7	14.9	Date	21.7	14.9	
Conductivity:	215	153	Cl^-	2.84	2.8	Max depth: 7.25m
Alkalinity:	0.16	-	Na^+	9.1	8.1	Trans- 21/7: 2.20;
			-			parency: 14/8: 2.30
Ca-hardness:	59	57	K^+	0.37	0.37	
						Max.vegetated depth:
						3.50 m
Total	72	65	Ca^{2+}	22.8	19.6	
hardness:						Nature of bottom: sand
						and stones in the
						shallows, mud in the
						deeper water.
Total P:	0.042	0.208	Mg^{2+}	2.8	2.4	

Site description and comments

Calcareous, relatively nutrient poor, clear water lake in steepsided valley, with stony and/or sandy shores. Two main rivers enter the lake on the Northern side, calcareous flushes are present here, as well as some woodland. The lake edge consists of wet grassland mostly but small area of cutaway peatland is also present. The surrounding land is mainly pasture. Stands of Phragmites and Scirpus and patches of Nuphar lutea are present. The dominant submergents are Elodea canadensis and in deeper water Potamogeton praelongus.

Hildenbrandia rivularis, an alga indicative of clean well-aerated water can be seen on rocks and stones in shallow water. It is never found in soft, acidic oligotrophic conditions. It was unexpected to find the rare submergent Najas flexilis in this lake, as it is usually associated with soft oligotrophic water. It seems to thrive in this lake with its calcareous water. It was found in very shallow water within the Scirpus beds, and it grew together with Elodea canadensis at 1.80 m depth and at 3 m with Potamogeton praelongus. In the shallows it dyes off earlier in the year than in the deeper water, which suggests it may be a cold water species, rather than a deep water one. Najas flexilis is an annual and may die off earlier in shallow water because it has completed its life cycle earlier because of increased warmth and light. In most lakes we found it associated with Potamogeton berchtoldii, but this plant is absent from Glenade lake.

Emergent zone: Phragmites australis and Scirpus lacustris are the dominant emergents. Typha latifolia occurs at the NW end of the lake. Equisetum fluviatile and Eleocharis palustris are common.

Floating leaf zone: Potamogeton natans and Nuphar lutea occur. The latter in small patches.

Submergent zones: On the land side of the reed beds in the shallowest water Chara aspera grows on sand, and a little deeper. Littorella uniflora is the main macrophyte. In the reed beds Potamogeton gramineus is abundant at less than 1 m depth, while Potamogeton lucens is common at more than 1 m depth. The latter decline just outside the reed bed and Potamogeton natans of the floating leaf zone takes over. Lakewards of the reed beds and of the floating leaf zones Elodea canadensis is the dominant submergent at about 1.50 m depth. At 3 m depth Potamogeton praelongus (dominant), Myriophyllum spicatum and Potamogeton pusillus occur. Najas flexilis is found throughout the reed bed zone down to the deepest vegetated areas (see remarks relevé 46 for details). This zonation was present at North and South end (relevé 46) as well as off shore from the island (relevé 34, 35).

Dominant plankton species:

21.7.78: Mixture of species - Nostoc, Ceratium herundinella, Dinobryon, Asterionella formosa, Fragillaria crotonensis, Synedra abundant. Microcystis wesenbergii and Rhizosolenia longiseta present.
14.9.78: Tabellaria fenestrata v. astera main alga, Anabaena >4⩽8u, Fragillaria crotonensis, Tabellaria flocculosa, Pandorina sp. abundant.

Ellenberg values		L	T	K	F	R	N
Relevé No.	34	7.0	4.3	2.3	11.3	6.4	3.4
	35	6.8	5.0	3.0	11.6	6.0	4.0
	46	7.0	4.7	4.3	11.7	7.5	5.7
Glenade Lough		6.9	4.7	3.2	11.5	6.6	4.4

Relevé details

Relevé No. 34

Location: island shore, south side
Size:5 x 2m, Slope: slight, Exposure: exposed, Water depth: 0.60m
Soil: gravel and rocks

	% Cover	Height (m)	Dominant species
Submergents	65	-	Littorella uniflora
Emergents	5	1	Litorella uniflora
Total	70	-	Littorella uniflora

Classification: Community of Isoetes lacustris (Subunit XVII)
Remarks: Chaetophora incrassata, Hildenbrandia rivularis, Tolypothrix sp. and Gloeotrichia sp. are very abundant in this vegetation type. The first two are indicative of clean, well aerated water. Cladophora sp. was growing on the rocks.

Relevé No. 35

Location: south side shore of island, further offshore than 34.
Size: 5 x 2m , Slope: slight, Exposure: exposed, Water depth: 1.60m
Soil: sand and rocks

	% cover	Height (m)	Dominant species
Submergents	80	-	Lemna trisulca
Total	80	-	Lemna trisulca

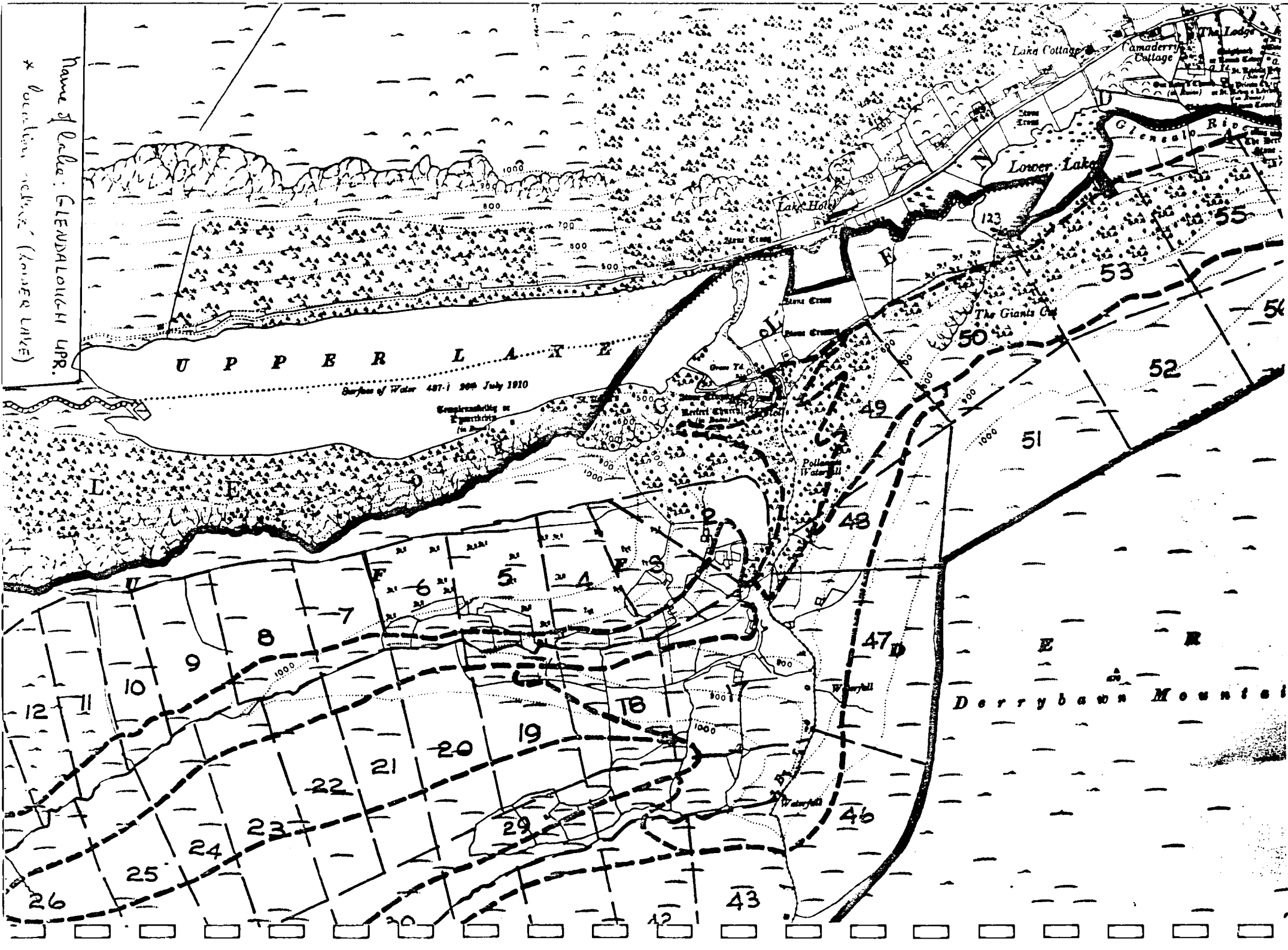
Classification: Community of Isoetes lacustris (Subunit XVII)
Remarks: The alga Gloeotrichia is most abundant. Going lakewards from the island into deeper water Elodea canadensis becomes dominant, deeper again Potamogeton pusillus, Nitella flexilis v. flexilis, Elodea canadensis and Potamogeton praelongis grow together. The sheltered south side of the island had the most marginal vegetation, very little vegetation on the other shores of the island.

Relevé No. 46

Location: South end of lake, in sheltered bay
Size: 5 X 5m , Slope: none, Exposure: sheltered, Water depth: 3.00m
Soil: mud

	% Cover	Height(m)	Dominant species
Submergents	20	-	Potamogeton praelongus
Total	20	-	Potamogeton praelongus

Classification: Community of Najas flexilis and Potamogeton berchtoldii (Subumit XIX).
Remarks: This relevé was taken on 14-9-78 and most of the plants were dying off. The alga Cladophora was lying on the bottom (washed down presumably from the shore). The dominant epiphytes were Chaemaesiphon sp. and Cocconeis sp. On our previous visit (21-7-78) Najas flexilis was noted from very shallow water in the Scirpus reed bed together with Potamogeton pusillus, Nitella flexilis v. flexilis, Tolypella nidifera v. glomerata, Chara fragilis, Callitriche hermafroditica and Acrocladium cuspidatum, just lakeward of the Chara aspera zone. Najas was seen growing at 1.80m depth together with Nitella flexilis v. flexilis, Tolypella nidifera v. glomerata, Callitriche hermafroditica, Fontinalis antipyretica and Elodea canadensis. Some of the epiphytic algae were calcified. Najas had gone from these shallower areas on 14-9-78. At 3m of depth Potamogeton praelongus was dominant and Najas was present. As depth increased Potamogeton praelongus opened up and Najas flexilus and Sparganium emersum were more frequent.


Name of Lake: GLENDALOUGH UPR.
* Location relative to (LOWER LAKE)
UPPER LAKE
Surface of Water 487·1 30th July 1910
Lake Cottage
Camaderry Cottage
The Lodge
Glenealo River
Lower Lake
Lake Holly
Stone Cross
The Giants Cup
Pollanass Waterfall
Derrybawn Mountain
1000
900
800
700
600
500
55
53
52
51
50
49
48
47
46
43
123
18
19
20
21
22
23
24
25
26
29

Name of lake: Glendalough Upr Lake No. 22

General Information

County: Wicklow
O.S. ½ inch sheet no. 16
O.S. 6 inch sheet no. 23
Grid Ref: T 103 960
Sampling date: 8.8.78
Drainage order of inflowing stream: 5

Altitude: 151.5m
Geology: Andovician
Ecological Division. 2
Area: 80
Max length: 1.6km

Physico-chemical information (for units see Table 2)

Conductivity:	42	Cl^+	3.19	Max depth: -
Alkalinity:	0.045	Na^+	4.9	Transparency: 3m
Ca-hardness:	5	K^+	0.27	Max vegetated depth: 2m
Total hardness:	8	Ca^{2+}	2.2	Nature of bottom:
Total P:	0.312	Mg^{2+}	0.6	Sandy, rocky; mud in deeper water

Site description and comments

Large, deep, steep sided, soft water lake, almost sterile. Plankton consisted of mostly Daphnias and some Tabellaria flocculosa. In shallow water the liverworth Mylia anomalia, the moss Polytichum heliferum, Juncus bulbosus and Isoetes lacustris were found on rocky substrate. The liverworths form a carpet. Potamogeton natans and Scirpus fluitans occur in muddy areas. Juncus bulbosus is the most common submergent. Other species found: Callitriche hamulata, Littorella uniflora, Nymphera alba, Sphagnum sp., Nardia compressa and Campylopus flexuosus. The lower lake is bordered by emergent vegetation, Phragmites dominated (123).

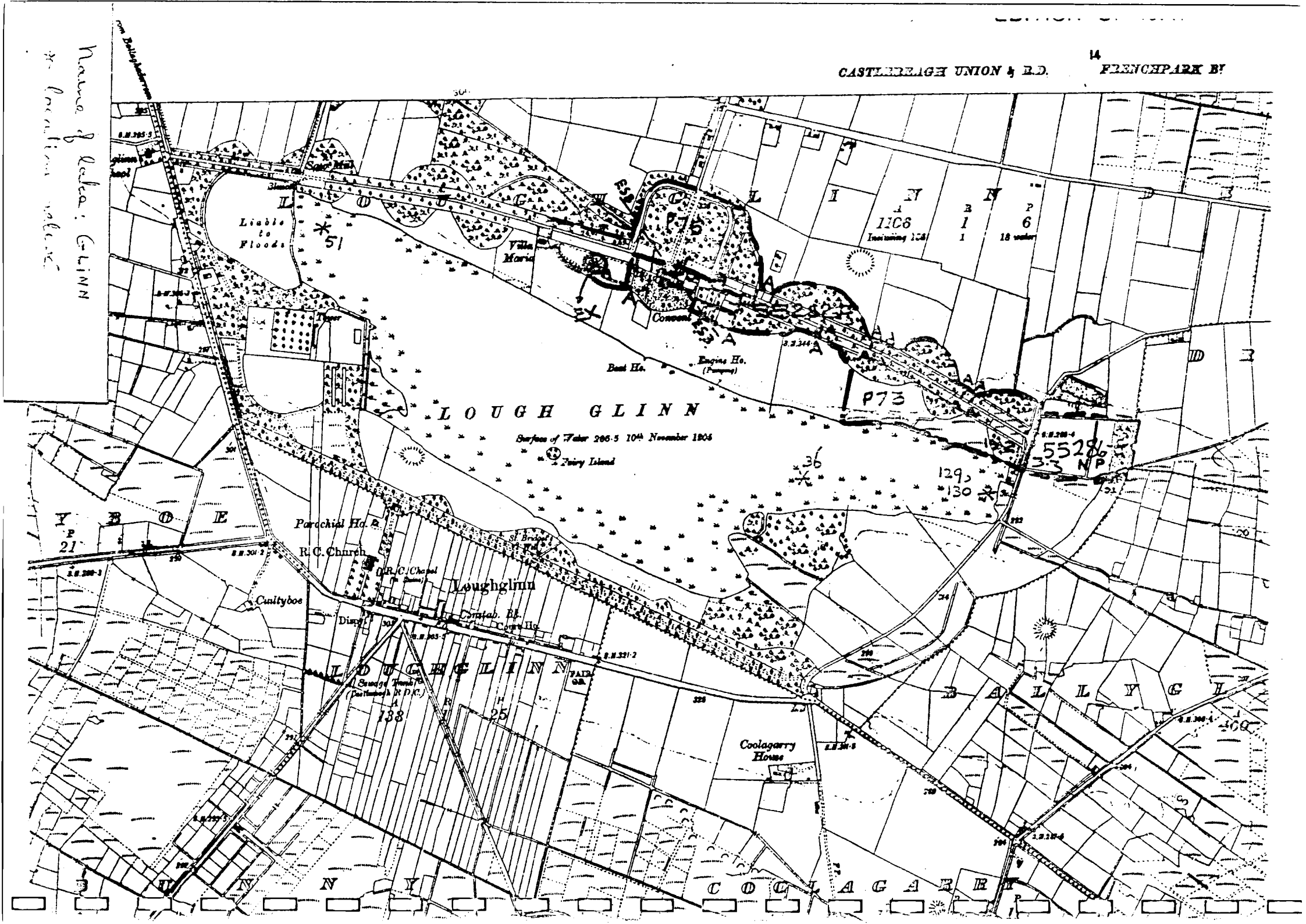
Relevé Details

Relevé No. 123 (Lower lake)

Location: South shore, Lower lake.
Size: 3 x 1.50m, Slope: none, Exposure: sheltered, Water depth: 0.10m
Soil: root mat, Phragmites on sand

	% Cover	Height(m)	Dominant species
Submergents	1	-	Hydrocotyle vulgaris
Emergents	40	1.70	Phragmites australis
Total	40	1.70	Phragmites australis

Classification: Phragmitetum australis (Subunit IX)


LOUGH GLINN
Surface of Water 286·5 10th November 1905
Fairy Island
Liable to Floods
Villa Maria
Convent
Boat Ho.
Engine Ho. (Pumping)
Tower
Parochial Ho.
R.C. Church
R.C. Chapel
Loughglinn
Cultyboe
Dispy
Cemtab. Bk.
Court Ho.
LOUGHGLINN
Coolagarry House
BALLYGL
COOLAGARRY
P15
P73
5528
NP
138
25
129
130
36
51

Name of lake: Glin Lake No. 23

General Information

County: Roscommon
O.S. ½ inch sheet no. 12
O.S. 6 inch sheet no. 20
Grid Ref: M 635 865
Sampling Date: 15.8.78
Altitude: 87.3
Geology: limestone
Ecological division: 3
Area: 125 ha
Max length: 1.8 km
Drainage order of inflowing stream: 1

Physico-chemical information (for units see Table 2)

Conductivity:	170	Cl^+	1.77	Max depth: 1.50m
Alkalinity:	-	Na^+	6.1	Transparency: >depth
Ca-hardness:	35	K^+	0.28	Max vegetated depth: 1.50m
Total hardness:	41	Ca^{2+}	13.0	Nature of bottom: sand in shallows, soft mud in deeper areas, peaty at south end of lake.
Total P:	0	Mg^{2+}	1.2	

Site description and comments

Shallow lake with sandy peaty shores, relatively soft water and a small catchment area. The lake is fringed with Scirpus lacustris. In the south west it has a large fen area of mostly floating Menyanthes scraw. In this area the lake bottom consists mainly of fen peat, while elsewhere soft mud predominates. Typha latifolia and Cicuta virosa occur at the Southern end. The dominant submergent species are Chara delicatula and Potamogeton obtusifolius in the open water and Lemna trisulca in the reed beds. The lake is surrounded by Filipendula grassland and pasture.

Emergent zone: Carex rostrata dominated fringe (relevé 130) with lakeward a Scirpus lacustris stand (relevé 129, 36) surrounding the lake. Typha latifolia dominated areas (relevé 131) are present on the Southern side of the lake, backed by an extensive fen area. Cicuta virosa occurs amongst the Typha.

Floating leaf zone: Nuphar lutea, Nymphaea alba, Polygonum amphibium and Potamogeton natans are present outside the Scirpus zone, as well as inside the emergent vegetations.

Submergent zone: Chara delicatula grows up to 1.50m deep (see remarks relevé 36). It runs down the middle of the lake. Other areas are dominated by Potamogeton obtusifolius (51). Lemna trisulca is very abundant in the reed beds.

Dominant plankton species: Dinobryon sp.

Ellenberg Values		L	T	K	F	R	N
Relevé No.	51	6.8	4.6	4	11.8	7	5.5

Relevé Details

Relevé No. 36

Location: Scirpus bed on Southern end of the lake.
Size: 5 x 2m, Slope: none, Exposure: exposed, Water depth: 0.50m
Soil: very peaty sand (some wood remains)

	% Cover	Height(m)	Dominant species
Submergents	100	-	Lemna trisulca
Emergents	5	-	Scirpus lacustris
Total	100	-	Lemna trisulca

Classification: Community of Littorella uniflora and Scirpus lacustris (Subunit XII).
Remarks: On the lakeward side of the Scirpus bed Chara delicatula becomes dominant in some areas. Potamogeton obtusifolius grows in clumps here, but generally poorly. Where the substrate is peat Chara delicatula is one of the few remaining species, and grows poorly.

Relevé No. 51

Location: Lakeward of Scirpus bed in sheltered bay, North West end
Size: 10 x 10m, Slope: none, Exposure: sheltered, Water depth: 0.40m
Soil: very soft mud

	% Cover	Height (m)	Dominant species
Submergents	20	0.30	Potamogeton obtusifolius
Total	20	0.30	Potamogeton obtusifolius

Classification: Community of Elodea canadensis and Lemna trisulca (Subunit XXVI).
Remarks: Grazing by swans reduces the extent of the Potamogeton obtusifolius in this area. Anadonta and snails are abundant on the mud, Perch plentiful.
The alga Nostoc pruniforme occurs abundantly on the mud bottom of sheltered areas.

Relevé No. 129

Location: Scirpus bed
Size: 2 x 2m, Slope: none, Exposure: sheltered, Water depth: 0.10m
Soil: sandy

	% Cover	Height(m)	Dominant species
Submergents	5	-	Littorella uniflora
Floating leaf	1	0.10	Potamogeton natans and Nuphar lutea
Emergents	25	2	Scirpus lacustris
Total	30	2	Scirpus lacustris

Classification: Community of Littorella uniflora and Scirpus lacustris (Subunit XII).

Relevé No. 130

Location: Carex rostrata dominant zone, landward of 129.
Size: 2 x 2m , Slope: none, Exposure: sheltered, Water depth: 0.50m
Soil: peaty sand

	% Cover	Height(m)	Dominant species
Submergents	1	-	Fontinalis antipyretia and Lemna trisulca
Floating leaf	1	0.05	Nymphaea alba
Emergents	60	2	Carex rostrata
Total	60	2	Carex rostrata

Classification: Carecetum rostratae (Subunit II6).

Relevé No. 131

Location: South side of lake
Size: 2 x 2m, Slope: none, Exposure: sheltered, Water depth: 0.20m
Soil: Root mat on sand

	% Cover	Height (m)	Dominant species
Submergents	40	-	Lemna trisulca
Emergents	25	2	Menyanthes trifoliata
Total	50	2	Lemna trisulca

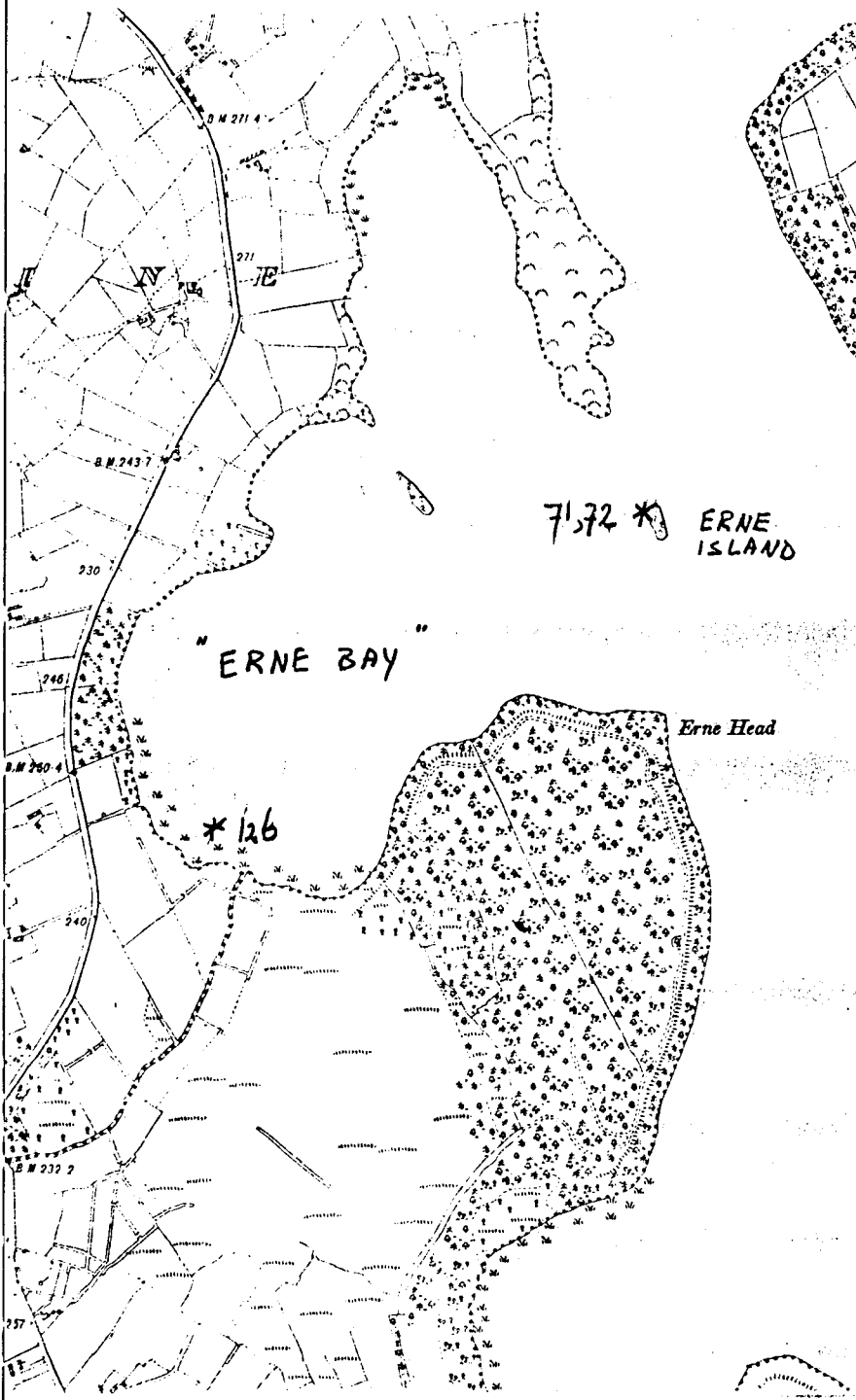
Classification: Carecetum rostratae (Subunit IIb)

Relevé No. 132

Location: South side of lake
Size: 1 x 1m , Slope: none, Exposure: sheltered, Water depth: 0m
Soil: floating scraw (fenpeat)

	% cover	Height (m)	Dominant species
Emergents	60	-	Menyanthes trifoliata
Total	60	-	Menyanthes trifoliata

Classification: Carecetum rostratae (Subunit II6)



Name of lake: GOWNA

* location relevé

Name of lake: Gowna (south part) Lake No. 24

General Information

County: Longford
O.S. ½ inch sheet no. 12
O.S. 6 inch sheet no. 6
Grid Ref: N 280 866
Sampling date: 8.9.77
Drainage order of inflowing stream: 30

Altitude: 65.3
Geology: Silurian
Ecological division: 5
Area: 1100 ha
Max length: 4 km

Physico-chemical information (for units see Table 2)

Conductivity:	268	Cl^+	10.7	Max depth:	-
Alkalinity:	0.17	Na^+	8.2	Transparency:	0.50m
Ca-hardness:	69	K^+	0.65	Max vegetated depth:	0.90m
Total hardness:	-	Ca^{2+}	30.0	Nature of bottom:	mud
Total P:	0.67	Mg^{2+}	8.4		

Site description and comments

South part of this large eutrophicated lake was investigated. Transparency is very low and submerged vegetation does not reach beyond the emergent zones. All three zones are retracted into one.

Emergents zones: Going lakeward Carex rostrata dominated fringe. Scirpus lacustris fringe (71,126). Littorella uniflora and Eleocharis palustris area.

Floating leaf plants: Nuphar lutea within reed beds, at time of survey on dry land.

Submergent zone: Only present within the emergent vegetation. Lemna trisulca and Elodea canadensis dominant. Cladophora very abundant on stony shores.

Dominant plankton species: bloom of Dinoflagellate

Ellenberg Values		L	T	K	F	R	N
Releve No.	72	6.3	5.7	5	11.8	7	7.3

Relevé Details

Relevé No. 71

Location: Scirpus fringe on Erne Island
Size: 3 x 3m, Slope: none, Exposure: exposed, Water depth: 0.30m
Soil: Scirpus root mat

	% Cover	Height (m)	Dominant species
Submergents	20	-	Fontinalis antipyretica
Emergents	50	1.50	Scirpus lacustris
Total	50	1.50	Scirpus lacustris

Classification: Scirpo-Phragmitetum (Subunit X)
Remarks: Shoreward of this reed bed Littorella uniflora occurs, lakewards, Potamogeton obtusifolius, in more sheltered positions Zannichellia palustris, Potamogeton perfoliatus and Potamogeton friesii.

Relevé No. 72

Location: shore of Erne Island
Size: 2 x 2m, Slope: gentle, Exposure: exposed, Water depth: 0.50m
Soil: stony

	% Cover	Height (m)	Dominant species
Submergents	30	0.10	Callitriche hermaphroditica
Total	30	0.10	Callitriche hermaphroditica

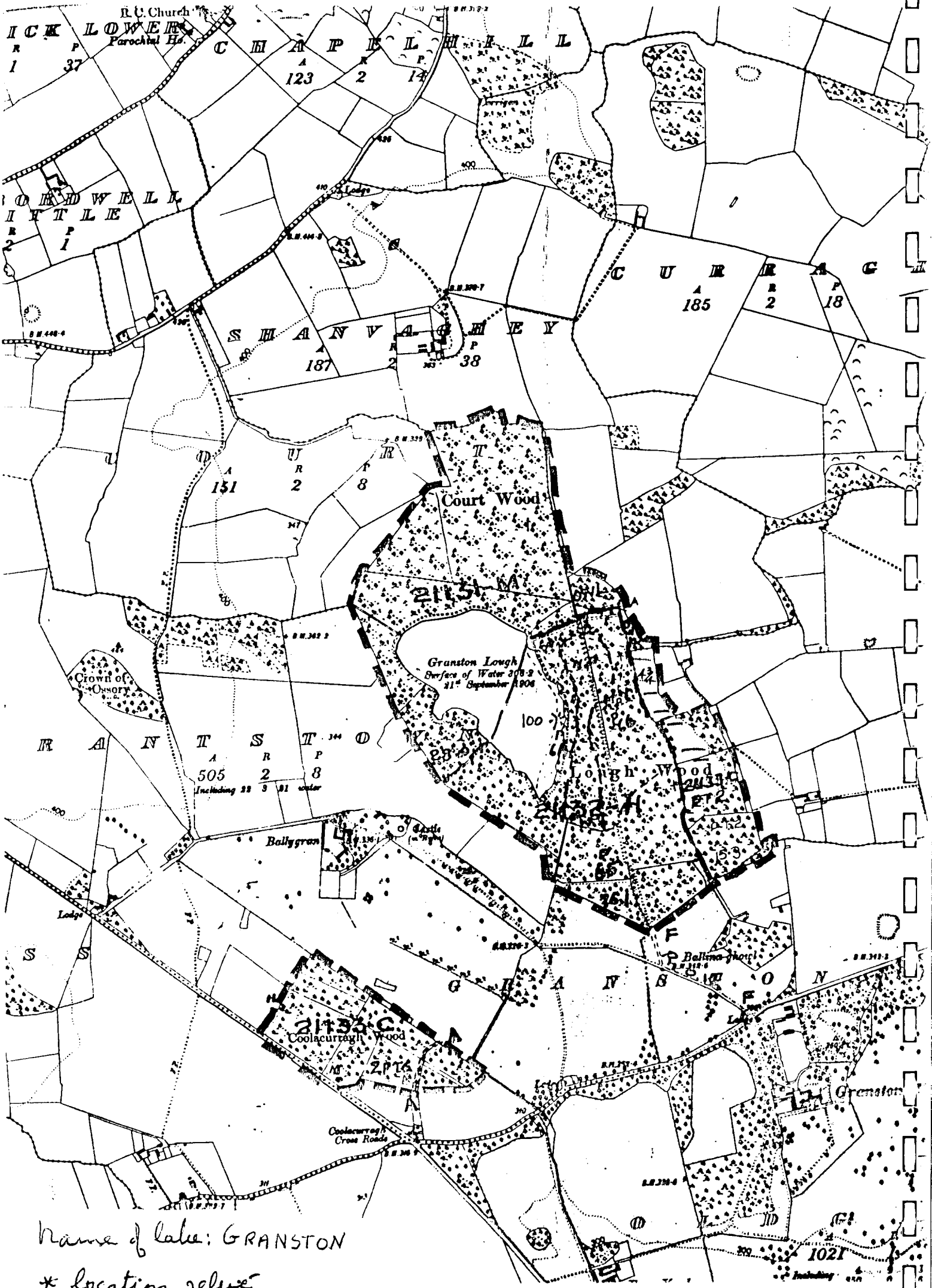
Classification: Community of Elodea canadensis and Lemna trisulca (Subunit XXVI)
Remarks: 100% cover of Cladophora present.

Relevé No. 126

Location: Scirpus fringe, south shore
Size: 1 x 1m, Slope: none, Exposure: exposed, Water depth: 0.30m
Soil: stony and peaty

	% Cover	Height(m)	Dominant species
Submergents	100	-	Lemna trisulca
Emergents	50	1.50	Scirpus lacustris
Total	100	1.50	Lemna trisulca

Classification: Scirpetum lacustris (Subunit XI)
Remarks: In other areas in this vegetation Lemna trisulca is replaced by Fontinalis antipyretica. On the landward side of this vegetation Littorella uniflora/Eleocharis palustris dominated areas occur. Further landward Carex rostrata fringe.



Name of lake: GRANSTON

* location relue

Name of lake: Granston Lake No. 25

General Information

County: Laois
O.S. ½ inch sheet no.: 18
O.S. 6 inch sheet no.: 28
Grid Ref: S 334 800
Sampling date: 23.8.79
Drainage order of inflowing stream: 0

Altitude: 94m
Geology: Limestone
Ecological Division: 3
Area: 8.9 ha
Max length: 0.5 km

Physico-chemical information (for units see Table 2)

Water not analysed

Max depth: -
Transparency: 0.90m
Max vegetated depth: 2m
Nature of bottom: marl

Site description and comments

Small relatively deep Calcium rich lake with reed fringe all around. Dominant species of reed fringe: Phragmites australis, Scirpus lacustris and Cladium mariscus also some patches of Typha latifolia and Hippuris vulgaris. Patches of Phormidium present, characteristic of calcium rich lakes on bare soil, where the Chara's have disappeared. Dominant plankton species are Ceratium hirundinella and Pandorina. This lake is almost certainly subject to frequent stratification.

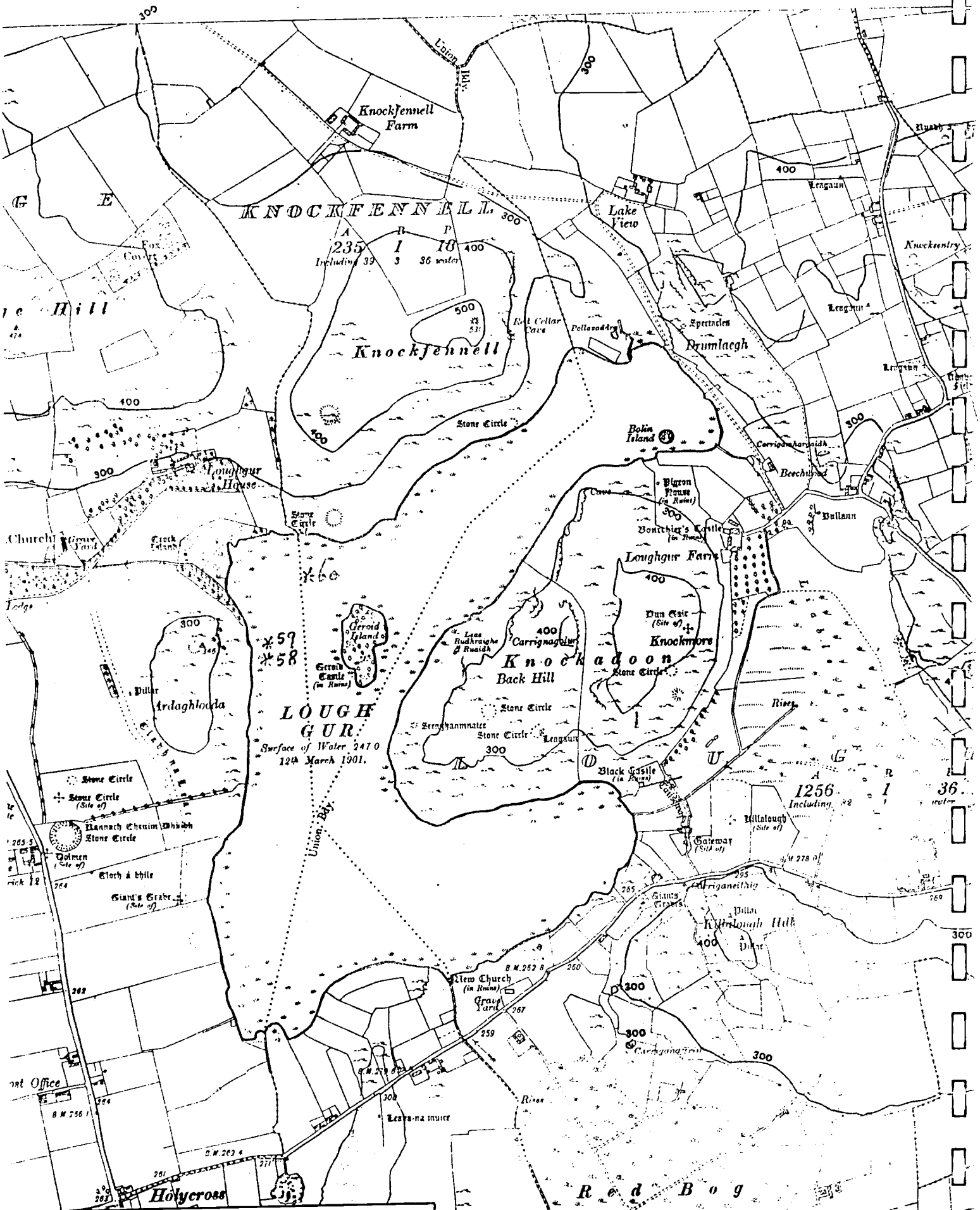
Relevé details

Relevé No. 100

Location: south-shore, open water off Cladium mariscus bed.
Size: 5 x 5m, Slope: gentle, Exposure: sheltered, Water depth: 1.50m
Soil: marl

	% Cover	Height(m)	Dominant species
Submergents	95	0.40	Chara rudris
Total	95	0.40	Chara rudris

Classification: Community of Chara rudris (Subunit XXXII)
Remarks: Phormidium 2 4 forms mats, consisting of unbranched filaments, on Chara's and on open soil. Cymbella dominant epiphyte.



Name of lake: GUR

* location relevé

Name of lake: Gur Lake No. 26

General Information

County: Limerick
O.S. ½ inch sheet no.: 18
O.S. 6 inch sheet no.: 32
Grid Ref: R 638 406
Sampling date: 10.10.77
Drainage order of inflowing stream: 1

Altitude: 75.3m
Geology: Limestone
Ecological division: 3
Area: 113 ha
Max length: 17 km

Physico-chemical information (for units see Table 2)

Conductivity:	265	Cl^+	14.2	Max depth:	2.50m
Alkalinity:	1.7	Na^+	10.3	Transparency:	>depth
Ca-hardness:	49	K^+	0.45	Max vegetated depth:	2.50m
Total hardness:	85	Ca^{2+}	29.3	Nature of bottom:	shelly sand
Total P:	0.19	Mg^{2+}	10.8		

Site description and comments

Shallow calcareous lake bordered by Scirpus, Typha latifolia and Equisetum fluviatile. Extensive reed swamp with several small pools present. The submergent vegetation is surprisingly invaried. The dominant species are Chara delicatula and Ceratophyllum demersum. Lake bottom consists of shell sand.

Emergent zones: Phragmites swamp with scattered clumps of Typha latifolia, Carex paniculata and sedge and grass dominated areas, some small pools within the swamp. Lake bordered by Scirpus lacustris, Typha latifolia and Equisetum fluviatile. Lakeward Equisetum fluviatile is the dominant emergent, at 0.60m depth (relevé 58).

Floating leaf zone: A narrow band (5m) of Polygonum amphibium is present in places.

Submergent zone: At 1m depth Chara delicatula (60) is the dominant species. At 1.70m depth Ceratophyllum demersum reaches

a cover of 100% (59). Most of the lake bottom is covered with this plant, except for a few bare patches.

Dominant plankton species: A large species of the Desmid Cosmarium, band shaped colonies of Synedra and Microcystis aeruginosa are co-dominant.

Ellenberg Values		L	T	K	F	R	N
Relevé No.	58	7.3	5.4	4.0	11.1	6.5	6.2
	59	6.8	6.5	4.3	12.0	7.3	7.0
	60	6.0	6.5	5.0	12.0	8.0	7.5
Lough Gur		6.7	6.1	4.4	11.7	7.3	6.9

Relevé details

Relevé No. 58

Location: Reed fringe
Size: 2 x 2m , Slope: none, Exposure: sheltered, Water depth: 0.60m
Soil: shell sand

	% Cover	Height(m)	Dominant species
Submergents	15	-	Ceratophyllum demersum
Floating leaf	1	0.60	Lemna minor
Emergents	45	1.50	Equisetum fluviatile
total	55	1.50	Equisetum fluviatile

Classification: Charetum asperae (Subunit XXV)
Remarks: Towards the shore Typha latifolia becomes more dominant, towards open water Equisetum fluviatile becomes more dominant. The underwater vegetation remains more or less similar. Cladophora, Coleochaete orbicularis and the diatoms Cymbella and Epithemia are the most dominant algae.

Relevé No. 59

Location: just on the lakeward side of the reed fringe.
Size: 2 X 2 m, Slope: none, Exposure: exposed, Water depth: 1m.
Soil: shell sand

	% Cover	Height (m)	Dominant species
Submergents	100	0.12	Chara delicatula
total	100	01.2	Chara delicatula

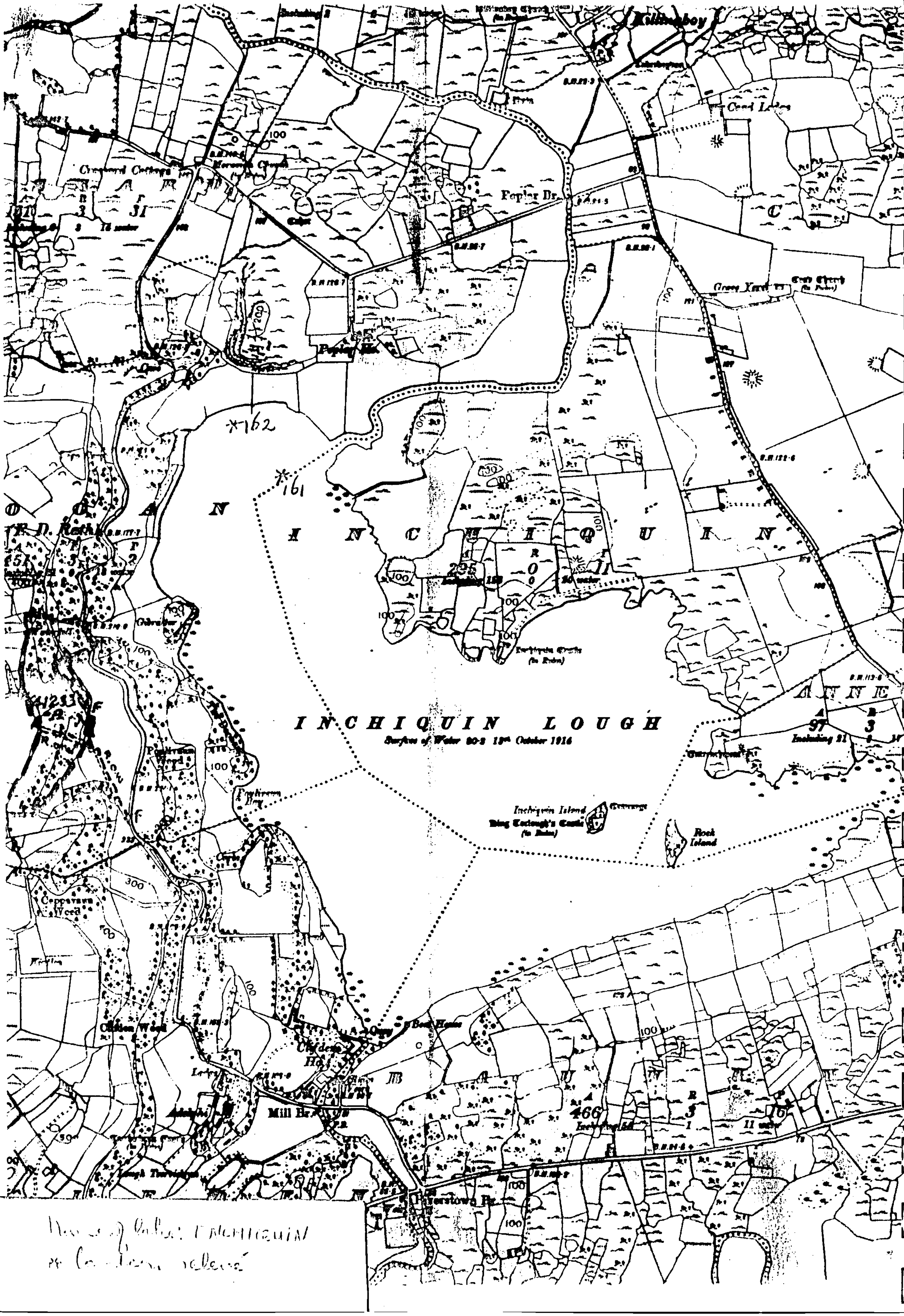
Classification: Charetum asperae (Subunit XXV).
Remarks: Chara aculeolata is also present in this zone, but it is outside this relevé. Algae: Cosmarium sp., Gloeotrichia, Tolypothrix, Synedra and other diatoms.

Relevé No. 60

Location: in open water
Size: 2 X 2m, Slope: none, Exposure: exposed, Water depth: 1.70m
Soil: shell sand.

	% Cover	Height (m)	Dominant species
Submergents	100	0.50	Ceratophyllum demersum
Total	100	0.50	Ceratophyllum demersum.

Classification: Charetum asperae (Subumit XXV).
Remarks: Most of the lake bottom is covered in this vegetation. Many algal species e.g. Anabaena, Aphanocapsa, Gloeotrichia, Microcystis, Phormidium 1μ, and several diatom genera.


Killinaboy
Poplar Br.
Poplar Ho.
INCHIQUIN
INCHIQUIN LOUGH
Surface of Water 80·2 19th October 1916
Inchiquin Castle (in Ruins)
Inchiquin Island
Rock Island
Gibraltar
Coppavaun Wood
Clifden Wood
Mill Br.
Quay
Boat House

Name of lake: Inchiquin Lake No: 27

General Information

County: Clare
O.S. ½ inch sheet no. 14
O.S. 6 inch sheet no. 17
Grid ref.: R 270 900
Sampling date: 31.7.81
Altidue: 24 m
Geology: limestone
Ecological division: 3
Area: 110 ha.
Max length: 17 m
Drainage order of inflowing stream: 9 (also underground drainage)

Physico-chemical information (per units see Table 2)

Water not analysed

Max. depth: 27 m
Transparency: -
Max. vegetated depth: -
Nature of bottom: mud

Site description and comments:

Calcarious lake, enriched (AFF), develops a thermocline in summer. Emergent vegetation dominated by Phragmites australis and Scirpus lacustris and backed by Carex rostrata fringe. Areas of Typha angustifolia present in North-West corner of lake. Floating leaf vegetation consists of Nuphar lutea. Submergent vegetation dominated by Elodea canadensis and Potamogeton spp. (Potamogeton crispus, Potamogeton pectinatus) Fontinalis antipyretica also present. Chara beds common.

Emergent zone: Phragmites australis and Scirpus lacustris, areas of Typha angustifolia.

Floating leaf zone: Nuphar lutea

Submergent zones: Elodea canadensis and Potamogetan species. Chara beds common.

Dominant plankton species: not sampled

Ellenberg values		L	T	K	F	R	N
Relevé No.	161	6.4	5.5	4	12	7.3	6.5
	162	6.2	5.5	4.3	11.8	7.5	6.3
Inchiquin Lough		6.3	5.5	4.2	11.9	7.4	6.4

Relevé details

Relevé No. 161

Location: open water, opposite river mouth
Size: 5 X 5 m, Slope: none, Exposure: exposed, Water depth:; 1 m
Soil: very soft mud

	% Cover	Height (m)	Dominant species
Submergents	30	-	Potamogeton pectinatus
Total	30	-	Potamogeton pectinatus

Classification: Charetum asperae (Subumit XXV).
Remarks: Cladophora up to 50% cover in this relevé. Relevé taken by Tom Curtis and Noel McGough.

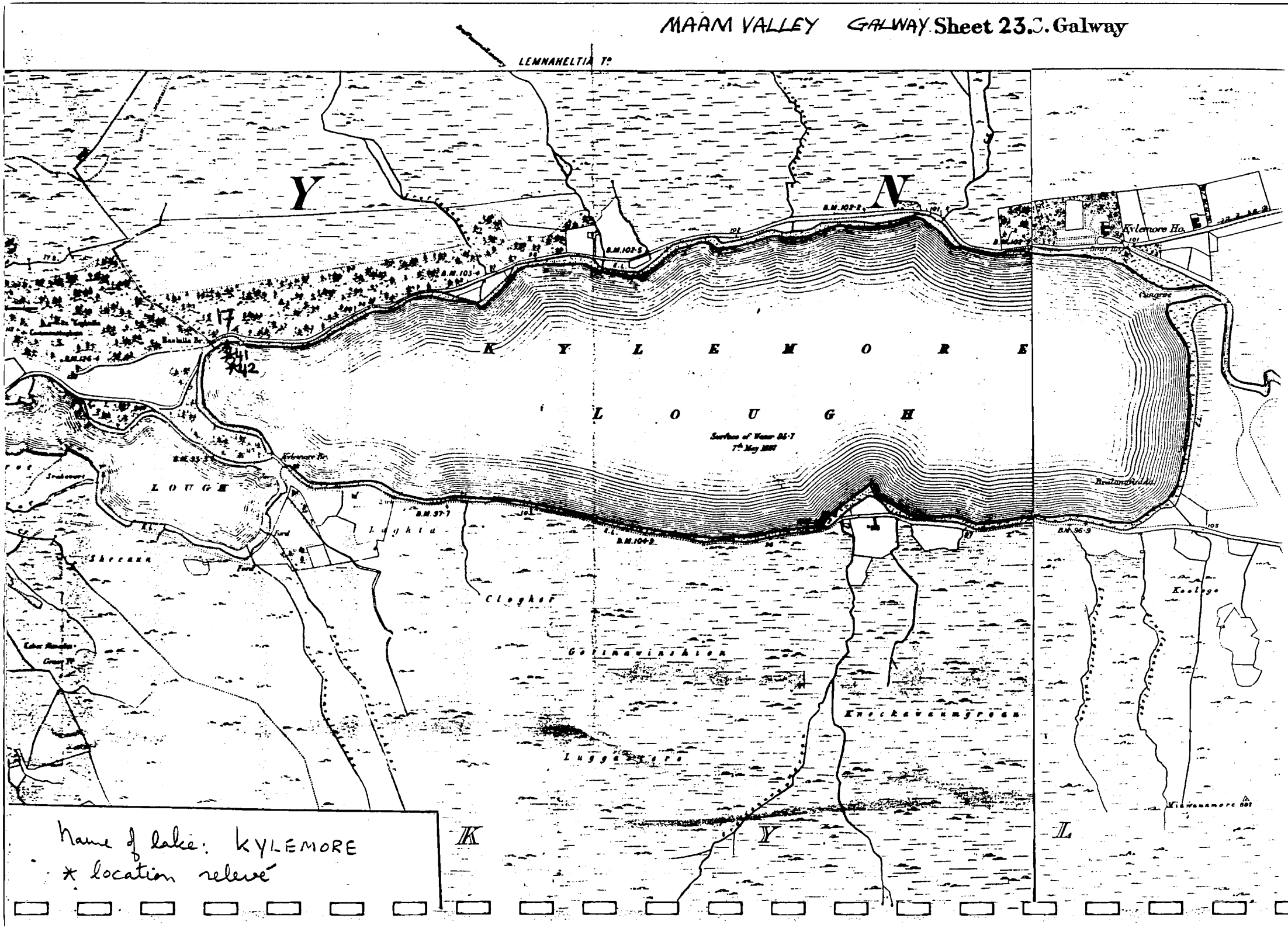
Relevé No. 162

Location: on mud near river mouth on Northern shore lakeward of Carex rostrata fringe.
Size: 5 X 5 m, Slope: none, Exposure: exposed, Water depth: 0.15m
Soil: soft mud, some boulders.

	% Cover	Height (m)	Dominant species
Submergents	50	-	Elodea canadensis Potamogeton crispus Fontinalis antipyretica
Emergents	5	-	Hippurus vulgaris Sparganium emersum
Total	50	-	Elodea canadensis, Potamogeton crispus, Fontinalis antipyretica

Classification: Charetum asperae (Subunit XXV)
Remarks: Relevé taken by Tom Curtis and Noel McGough.

MAAM VALLEY GALWAY Sheet 23.C. Galway



Name of lake: KYLEMORE
* location relevé

Name of lake: Kylemore (Western part) Lake No: 28

General Information

County: Galway
O.S. ½ inch sheet no. 10
O.S. 6 inch sheet no. 23, 24
grid ref: L 770 583
sampling date: 11-8-77
drainage order of inflowing stream: 12

altitude: 29.2m
geology: shist and gneiss
ecological division: 2
area: 140 ha.
max. length: 2.4 km

Physico-chemical information (for units see Table 2)

Conductivity:	110.5	Cl	-	Max. depth: 10 m
Alkalinity :	0.15	Na^+	6.2	Transparency: 2.20 m
Ca-hardness :	≃	K^+	0.23	Max. vegetated depth: 4m
Total hardness:	-	Ca^{2+}	4.0	Nature of bottom: sand and
Total P:	0.82	-	Mg^{2+} 6.0	silty mud, rocky on shores.

Site description and comments

Large exposed oligotrophic soft water lake with rocky shores and sparse aquatic vegetation, surrounded by mountanous country. The western corner of the lake was investigated.

Emergent zone: Mostly absent, except for some sparse Phragmites.

Floating leaf zone: Potamogeton natans occured very sparsely.

Submergent zone: In the shallows Littorella uniflora occurs sparsely on the stony shores. At 1.20m depth Lobelia dortmanna is abundant (17), at 3.50 m Isoetes lacustris and Nitella flexilis v. flexilis dominate (41) and at 4 m depth Nitella flexilis v. flexilis dominates and Najas flexilis occurs sparsely.

Dominant plankton species: Mixture of species.

Ellenberg values		L	T	K	F	R	N
Relevé No.	17	7.4	5.3	2.0	10.6	3.4	2.2
	41	7.7	4.7	3.0	12.0	5.3	3.0
	42	7	4	2	12	3	1
Kylemore Lough:		7.4	4.7	2.3	11.5	3.9	2.1

Relevé details:

Relevé No. 17

Location: sheltered inlet on North-West shore, open water.
Size: 4 X 4 m, Slope: steep, Exposure: exposed, Water depth: 1.20m
Soil: sand

	% Cover	Height (m)	Dominant species
Submergents	30	0.05	Lobelia dortmanna
Total	30	0.05	Lobelia dortmanna

Classification: Eriocaulo-Lobelietum Isoetetosum (Subunit XVb)
Remarks: At the same depth but further offshore Isoetes lacustris and Utricularia neglecta are more common, otherwise similar vegetation. Spirogyra spp. are the dominant algae.

Relevé No. 41

Location: open water, further offshore than 17.
Size:4 x 1 m, Slope: gentle, Exposure: exposed, Water depth:3.50m
Soil: sandy silt with ½ cms of organic detritus on surface.

	% Cover	Height (m)	Dominant species
Submergents	70	0.10	Isoetes lacustris and Nitella flexilis v. flexilis.
Total	70	0.10	Isoetes lacustris and Nitella flexilis v. flexilis.

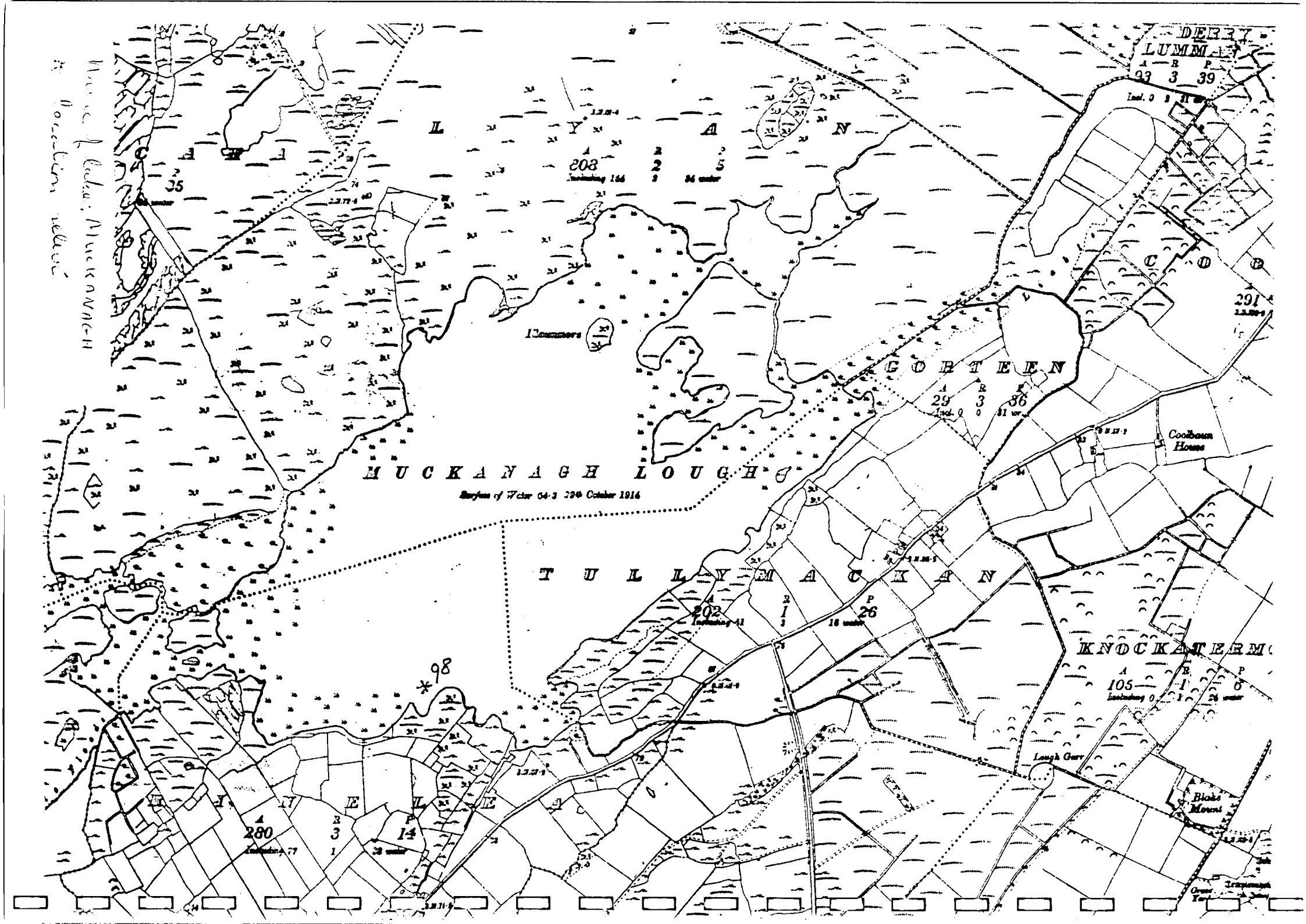
Classification: Community of Najas flexilis and Potamogeton berchtoldii (Subunit XIX).
Remarks: Spirogyra main algal species.

Relevé No. 42

Location: open water, further offshore than 17 and 41.
Size: 2 x 2m, Slope: none, Exposure: exposed, Water depth: 4m
Soil: silty sand with ½ cm of peaty material on top.

	% Cover	Height(m)	Dominant species
Submergents	10	-	Nitella flexilis v. flexilis
Total	10	-	Nitella flexilis v. flexilis

Classification: Community of Najas flexilis and Potamogeton berchtoldii (Subunit XIX).
Remarks: Dead tree leaves on bottom, Spirogyra main algal species.


DERRY LUMMAN
A B P
93 3 39
L Y A N
208 2 5
C A H E R
35
C O B
291
COBTEEN
29 3 86
Coolbawn House
HUCKANAGH LOUGH
Surface of Water 64·3 29th October 1914
TULLYMACKAN
202 1 26
KNOCKATERM
105 1 6
98
Lough Gurr
Black Mount
280 3 14

Name of lake: Muckanagh Lake No: 29

General Information:

County: Clare
O.S. ½ inch sheet no: 14
O.S. 6 inch sheet no: 18
Grid ref: R 370 920
Sampling date: 26-8-84
Altitude: 20m
Geology: Limestone
Ecological division: 4
Area: 118 ha
Max. length: 2 km
Drainage order of inflowing stream: 2 (also underground drainage)

Physico-chemical information (for units see Table 2)

Water not analysed
Max. depth: -
Transparency: -
Max. vegetated depth: -
Nature of bottom: marl

Site description and comments: Calcareous lake bordered by reeds.

Emergent zone: Phragmites reed beds, patches of sparse Scirpus lacustris.

Floating leaf zone: absent.

Submergent zones: Chara beds dominant.
Chara tomentosa occured with Nuphar lutea, Potamogeton lucens, Potamogetan perfoliatus and Elodea canadensis and various other Chara species (probably Chara contraria) at 4 m depth. In shallow water Littorella uniflora occured with Samolus valerandi in patches. Chara desmacantha (abundant) and Chara aculeolata (sparse) also occured. Very thick calcium deposit on rocks in shallows.

Dominant plankton species: not sampled.

Ellenberg values	L	T	K	F	R	N
Relevé No: 98	8	6	2	11	6.8	3

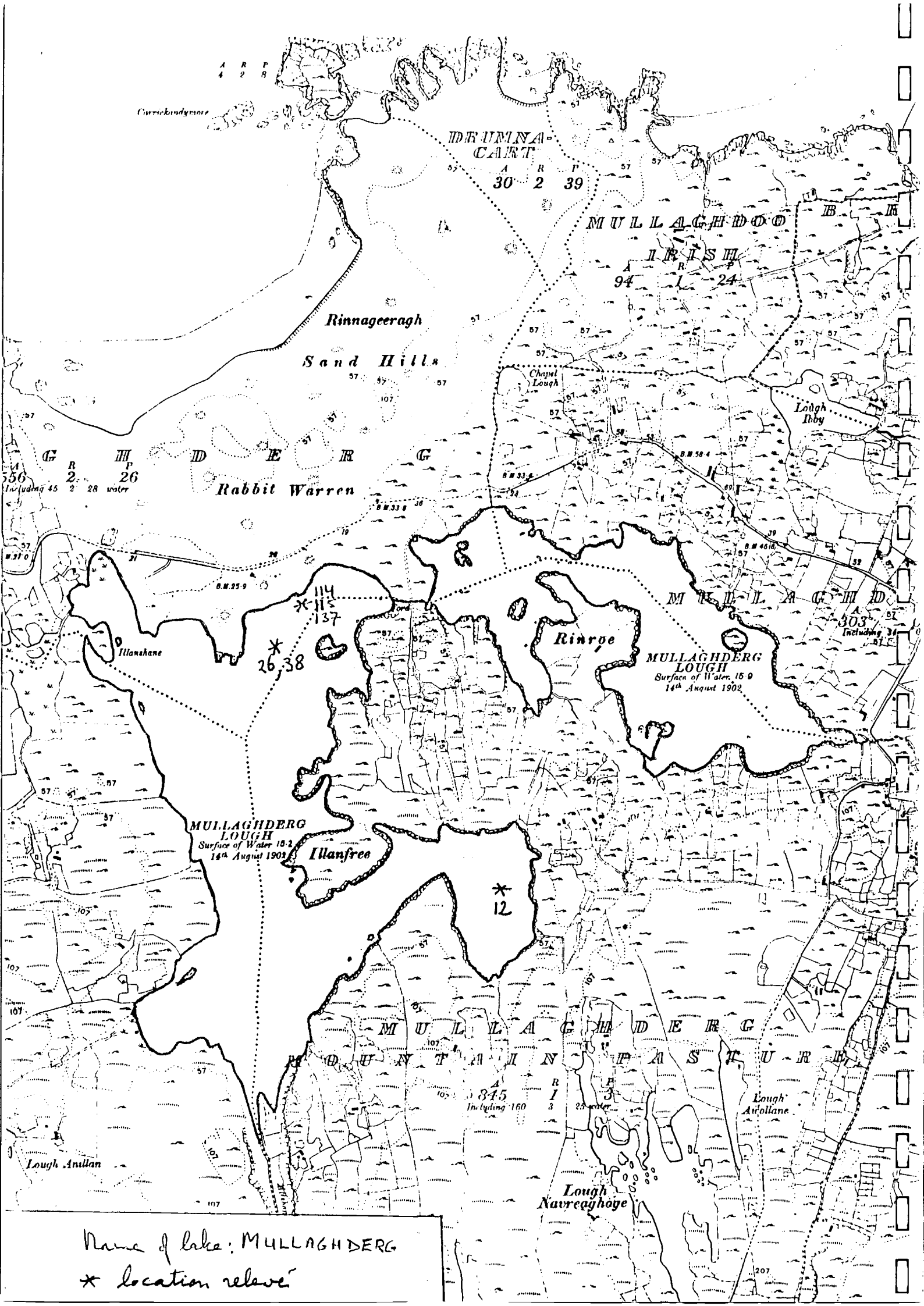
Relevé details

Relevé No. 98

Location: south end
Size: 5 X 5 m , Slope: none, Exposure: exposed, Water depth: 2m
Soil: soft marsh

	% Cover	Height (m)	Dominant species
Submergents	90	0.15	Chara desmacantha
Total	90	0.15	Chara desmacantha

Classification: Community of Chara desmacantha (Subunit XXX).
Remarks: Relevé taken on 26-8-84.


Carrickindyrmore
DRUMNA-CART
A R P
30 2 39
MULLAGHDOO
IRISH
A R P
94 1 24
Rinnageeragh
Sand Hills
Chapel Lough
Lough Ibby
GLEBE
A R P
2 2 26
Including 45 3 28 water
Rabbit Warren
B.M. 33·8
B.M. 58·4
B.M. 46·6
B.M. 23·9
B.M. 31·0
114
115
137
26,38
Illanshane
Rinroe
MULLAGHDERG
303
Including 36
MULLAGHDERG
LOUGH
Surface of Water 15·9
14th August 1902
MULLAGHDERG
LOUGH
Surface of Water 18·2
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Illanfree
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MOUNTAIN PASTURE
A R P
845 1 3
Including 160 3 25 water
Lough Avollane
Lough Anillan
Lough Naweeghoye
Name of lake: MULLAGHDERG
* location relevé

Name of lake: Mullaghderg (western lake) Lake No: 30

General information

County: Donegal
O.S. ½ inch sheet no. 1
O.S. 6 inch sheet no. 41
Grid ref: B 761 196
Sampling date: 21-9-77
Altitude: 4.6 m
Geology : granite
Ecological division: 7
Area: 70 ha
Max. length: 1.2 km
Drainage order of inflowing stream: 1

Physico-chemical information (for units see Table 2)

Conductivity:	250	Cl^-	13.1	Max. depth:	1.50m
Alkalinity :	008	Na^+	15.0	Transparency:	>depth
Ca-hardness :	-	K^+	0.28	Max. vegetated depth:	1.50m
Total hardness:	-	Mg^{2+}	11.5	Nature of bottom:	sand and
Total P:	0.81	Mg^{2+}	15.0	Silt overlying sand.	

Site description and comments

Shallow lake behind sand dunes, with moderately soft water and sandy bottom. Sparse emergent fringe. Submergent vegetation dominated by Littorella uniflora, Eriocaulon aquaticum or at northern more alkaline end Chara aspera. Najas flexilis found in this lake. Much of bottom covered with flocculated algal material to 0.10 m thick.

Emergent zone: Sparse fringes of Carex rostrata (115) and Phragmites (137) dominated areas.

Floating leaf zone: no floating leaf zone.

Submergent zone: Littorella uniflora (26) Chara aspera and Eriocaulon aquaticum (12) dominated areas occur at about 1m depth. At 1.50 m Potamogeton praelongus, Potamogeton gramineus, Najas flexilis and Nitella flexilis v. flexilis were found together, on soft silt overlying sand.

Dominant plankton species: mixture of species.

Ellenberg values		L	T	K	F	R	N
Relevé No:	12	6.8	3.5	3	11.5	4.3	3.3
	26	7.0	5.5	2.6	10.8	3.8	3.0
	38	7.0	4.3	3.5	11.5	6.0	4.0
Mullaghderg Lough:		6.9	4.4	3	11.3	4.7	3.4

Relevé details

Relevé No. 12

Location: in sheltered bay in open water
Size: 10 X 10m, Slope: none, Exposure: sheltered, Water depth: 1m
Soil: silty sand

	% Cover	Height(m)	Dominant species
Submergents	95	1.10	Eriocaulon aquaticum
Total	95	1.10	Eriocaulon aquaticum

Classification: Eriocaulo-Lobelietum (Subunit XV a).
Remarks: The Myriophyllum may be spicatum. Nostoc carneum very abundant.

Relevé No. 26

Location: open water, north end
Size: 3x3m, Slope: none, Exposure: sheltered, Water depth: 0.90m
Soil: silt on sand.

	% Cover	Height(m)	Dominant species
Submergents	75	-	Littorella uniflora
Total	75	-	Littorella uniflora

Classification: Eriocaulo-Lobelietum (Subunit XVa)
Remarks: In areas where the sand is not covered with silt Chara aspera is the dominant, accompanied by Scorpidium scorpioides and occasionally Juncus bulbosus.

Relevé No. 38

Location: open water, north end
Size: 10 X 5m, Slope: none, Exposure: sheltered, Water depth: 0.75-1m
Soil: 10 cm of silt overlying sand.

	% Cover	Height (m)	Dominant species
Submergents	25	0.50	Potamogeton praelongus
Emergents	5	2	Phragmites australis
Total	25	0.50	Potamogeton praelougis

Classification: Community of Najas flexilis and Potamogeton berchtoldii (Subunit XIX).

Relevé No. 114

Location: emergent fringe, northern shore
Size: 2 x 1m, Slope: gentle, Exposure: sheltered, Water depth: 0.20m
Soil: sand

	% Cover	Height(m)	Dominant species
Submergents	70	-	Chara aspera
Emergents	10	0.40	Carex rostrata and Equisetum fluviatile
Total	80	-	Chara aspera

Classification: Carecetum rostratae, subassociation with elements of Littorellion. (Subunit IIa).

Relevé No. 115

Location: emergent fringe, landward of 114, northern shore
Size: 1 x 1 m, Slope: none, Exposure: sheltered, Water depth: 0.05m
Soil: sandy mud

	% Cover	Height (m)	Dominant species
Emergents	40	2	Carex rostrata
Total	90	2	Scorpidium scorpioides

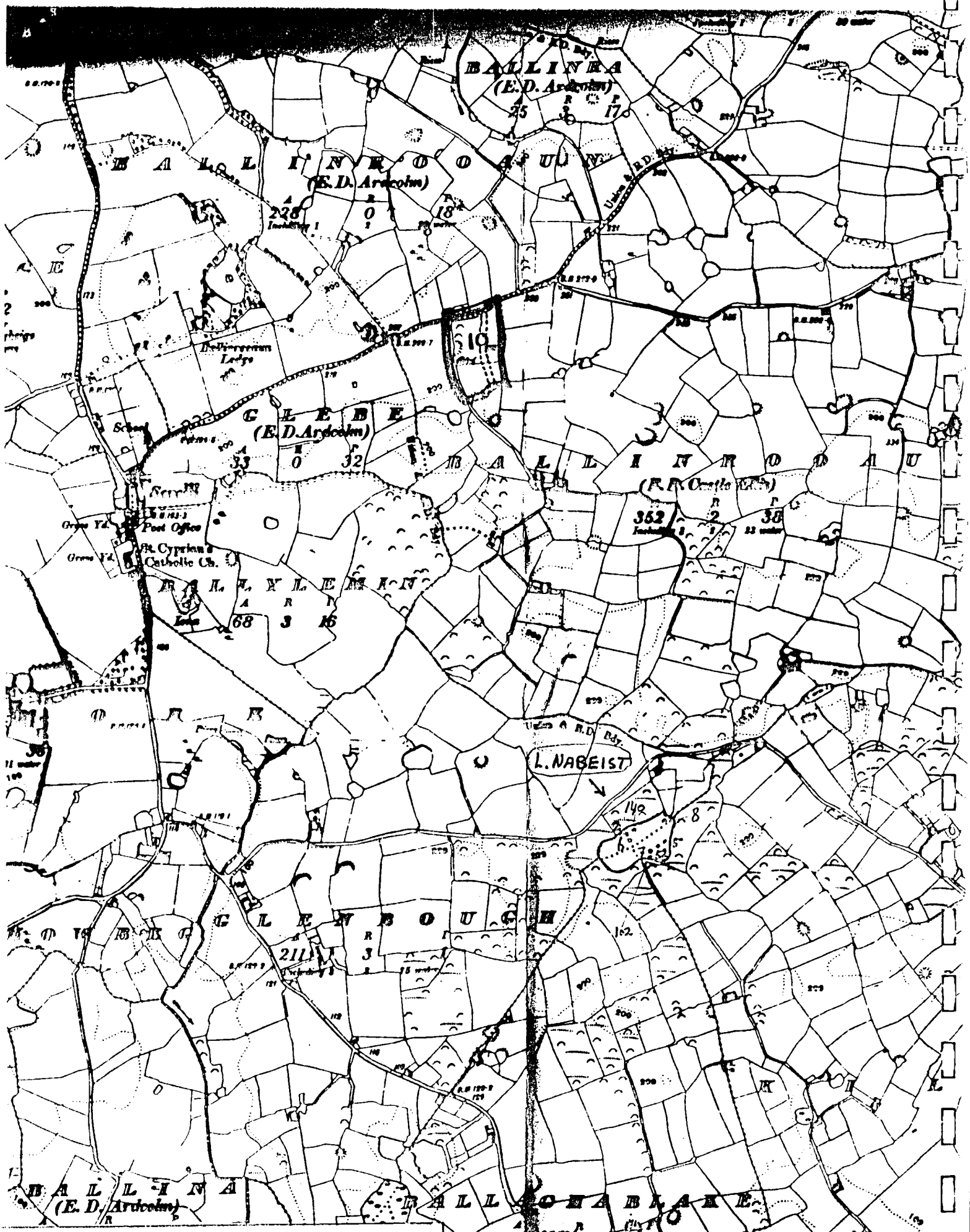
Classification: Carecetum rostratae, subassociation with elements of Littorellion (Subunit IIa).

Relevé No. 137

Location: emergent fringe, northern shore
Size: 1 x 1m, Slope: none, Exposure: sheltered, Water depth: 0.20m
Soil: silt or sand

	% Cover	Height (m)	Dominant species
Submergents	70	-	Littorella uniflora
Emergents	5	2	Phragmites australis and Equisetum Fluviatile
Total	75	-	Littorella uniflora

Classification: Community of Littorella uniflora and Scirpus lacustris (Subumit XII).



Name of lake: NABEIST
- location relevé

Name of Lake: Na Beist Lake No: 31

General Information

County: Wexford Altitude: between 30-60 m
O.S. ½ inch sheet no. 23 Geology : Cambrian
O.S. 6 inch sheet no. 33 Ecological division: 5
Grid. ref: T 094 294 Area: 2 ha
Sampling date: 28.7.77 Max. length: 0.17 km
Drainage order of inflowing steam: 0

Physico-chemical information (for units see Table 2)

Conductivity	:250	Cl^+	16.0	Max. depth: 15 m
Alkalinity	:112	Na^+	13.2	Transparency: 2.90 m
Ca-hardness	: 32	K^+	0.68	Max. vegetated depth: 6.20m
Total hardness	: 64	Ca^{2+}	21.5	Nature of bottom: sand with
Total P:	1.39	Mg^{2+}	5.4	layer of silt on top.

Site description and comments

Deep, steep sided, small lake with sandy bottom in low hilly countryside. Surrounding landuse mainly pasture. No inflowing steams. In geological terms the lake is a kettlehole. It is fringed by Scirpus lacustris and Phragmites australis. Polygonum amphibium is the only floating leaf plant present. Fontinalis antipyretica grows deepest. One area of Myriophyllum spicatum is present. A band of Chara fragilis and Nitella flexilis v. flexilis occurs at 0.30 m and at 2 m depth. When visited the lake was stratified near the bottom.

Emergent zone: Reedbeds of Scirpus lacustris (dominant) and Phragmites australis surround the lake. (2, 8, 140). On landward side of reeds occur Juncus articulatus vegetation (5) and Ranunculus flammula dominated areas (102).

Floating leaf zone: Polygonum amphibium dominated, covers about 5% of the lake surface, mostly on Southern shore of lake (7). Polygonum amphibium also occurs in the emergent zone.

Submergent zone: Fontinalis antipyretica is the major submergent of the lake, it occurs throughout the shallower zones, as well as in the submergent zone, decending to 4-5 metres. Whether it is active at this depth or not is uncertain as whole areas seem to have slipped down from above. The only other vegetation type found actively growing was Myriophyllum spicatum (52). Nitella flexilis is also probably abundant at sometimes of the year but was moribond when the site was visited.

Dominant plankton species: no plankton sample.

Ellenberg values		L	T	K	F	R	N
Relevé No.	7	7	-	-	11	-	7
	52	6.0	5.0	-	11.0	7.5	5.0
	102	7.3	6	2.5	10.3	3	3.7
Lough Na Beist		6.8	5.5	2.5	10.8	5.3	5.2

Relevé details

Relevé No. 2

Location: Reedbed 2 m offshore on Northwest side of lake.
Size: 10 X 2 m, Slope: 40°, Exposure: sheltered, Water depth: 1.0 m
Soil: sand with 3 cm of organic silt on top.

	% Cover	Height(m)	Dominant species
Submergents	5	-	Fontinalis antipyretica
Floating leaf	30	1.00	Polygonum amphibium
Emergents	40	1.50	Phragmites australis
Total	60	1.50	Phragmitetum australis

Classification: Phragmitetum australis (Subumit IX)
Remarks: Dominant algae: Oscillatoria splendida and Tolypothrix sp (7.5 μ trichome).

Relevé No. 5

Location: Upper edge of water, landside of reeds, North West side
Size: 2 X 1m, Slope: gentle, Exposure: sheltered, Water depth: 0.20-0.50m
Soil: sand, gravel

	% Cover	Height(m)	Dominant species
Submergents	5		Myriophyllum spicatum and Callitriche species
Emergents	20	0.20	Juncus articulatus
Total	25	0.20	Juncus articulatus

Classification: Phragmitetum australis (Subunit IX)
Remarks: Species of blue green algae are the dominants, (Phormidium 1μ, Tolypothrix) as well as a mixture of other species.

Relevé No. 6

Location: in open water, outside Phragmites zone, North-West side of lake.
Size: 4 X 3 m, Slope: steep, Exposure: sheltered: Water depth: 2.85 m
Soil: sand with thin layer of organic mud on top.

	% Cover	Height(m)	Dominant species
Submergents	95	0.30	Fontinalis antipyretica
Total	95	0.30	Fontinalis antipyretica

Classification: Community of Nitella flexilis (Subunit XXI a).
Remarks: Extensive bare patches are seen on the steep slope, as if the vegetation had slumped down towards bottom of lake. Dead remains of Nitella flexilis v. flexilis suggest that this plant is more abundant at other times of the year. Filamentous green algae are abundant (Mougeotia spp. 27μ, 35μ; Oedogonium sp. 20μ).

Relevé No.7

Location: Floating leaf zone on South-East shore
Size: 3 X 3 m^2, Slope: steep, Exposure: sheltered, Water depth: 2.0 m
Soil: silty sand

	% Cover	Height (m)	Dominant species
Submergents	95	0.30	Fontinalis antipyretica
Floating leaf	30	2.0	Polygonum amphibium
Total	100	0.30	Fontinalis antipyretica

Classification: Community of Polygonum amphibium (Subunit XXIII)
Remarks: Cladophora sp. is the most abundant alga found.

Relevé No. 8

Location: Scripus zone on North East side of lake
Size: 4 x 4 m, Slope: steep, Exposure: sheltered, Water depth: 1.50 m
Soil: root mat, 0.30 m deep.

	% Cover	Height (m)	Dominant species
Submergents	95	0.30	Fontinalis antipynetica
Emergents	45	2	Scirpus lacustris
Total	100	0.30	Fontinalis antipyretica

Classification: Scirpo-Phragmitetium (Subunit X)
Remarks: This zone measures about 8 m across. A mixture of algal species of equal abundance is present e.g. Cladophora sp several unbranched filamentous greens, Coleochaete orbicularis, Gloeotrichia, Nostoc, Tolypothrix and several others.

Relevé No. 52

Location: off shore from releve 5, North West shore
Size: 2 x 1 m, Slope: steep, Exposure: sheltered, Water depth: 0.80-1.50 m
Soil: sand

	% Cover	Height (m)	Dominant species
Submergents	100	0.20	Myriophyllum spicatum
Emergents	1	1	Phragmites australis
Total	100	0.20	Fontinalis antipyretica

Classification: Charetum asperae (Subunit XXV)
Remarks: Between relevé 5 and 52 there is an area without emergents dominated by Chara fragilis (40% cover). Lakewards of 52 there is a zone of Chara fragilis and Nitella flexilis. Beyond this zone from 2-3 m depth no vegetation. At 4 m depth Fontinalis antipyretica appears up to 6.20m depth.

Relevé No. 102

Location: East shore, land side of reeds.
Size: 2 x 2 m, Slope: steep, Exposure: sheltered, Water depth: 0.15-0.60m

	% Cover	Height(m)	Dominant species
Submergents	5	-	Nitella flexilis v. flexilis
Floating leaf	5	0.40	Potamogeton polygonifolius and Polygonium amphibium
Emergents	20	1.40	Ranunculus flammula
Total	25	1.40	Ranunculus flammula

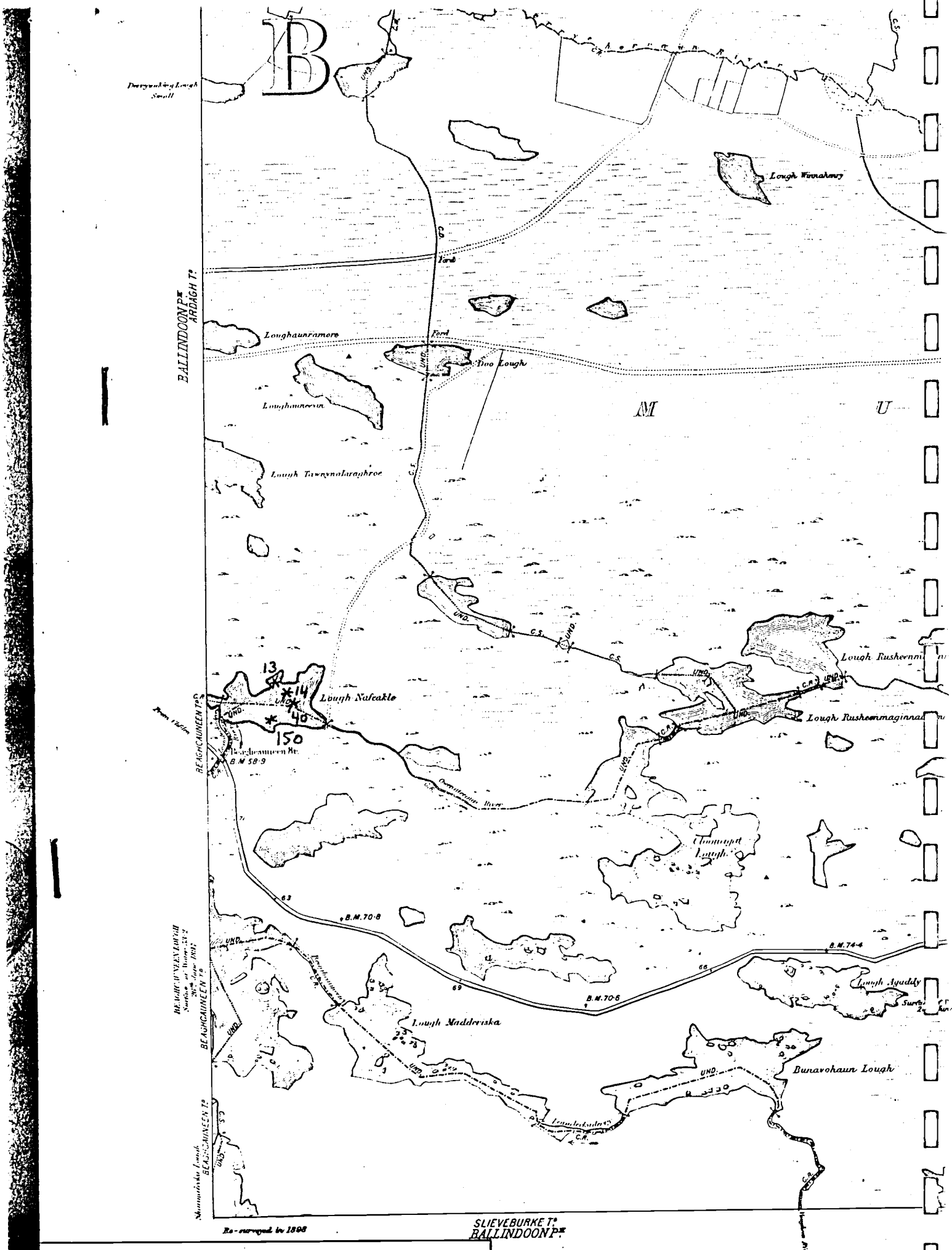
Classification: Community of Polygonum amphibium (Subunit XXIII)
Remarks: Slightly poached by cattle.

Relevé No. 140

Location: South West shore, Scirpus reed bed
Size: 2 x 2 m, Slope: slight, Exposure: sheltered, Water depth: 0.60-0.90 m
Soil: fine mud over sand.

	% Cover	Height (m)	Dominant species
Submergents	100	-	Fontinalis antipyretica
Floating leaf	5	0.75	Polygonum amphibium
Emergents	50	2.40	Scirpus lacustris
Total	100	-	Fontinalis antipyretica

Classification: Scirpo-Phragmitetum (Subunit X)



Name of lake: NAFEAKLE

* location relevé

Name of Lake: Nafeakle Lake No. 32

General Information

County: Galway Altitude: 16m
O.S. ½ inch sheet no.: 10 Geology: Schist and Gneiss
O.S. 6 inch sheet no.: 36 Ecological Division: 1
Grid Ref. L 683 475 Area: 3 ha
Sampling date: 10/8/77 Max length: 0.26m
Drainage order of inflowing stream: 4

Physico-chemical information (for units see Table 2)

Conductivity:	110	Cl^+	-	Max depth: 3m
Alkalinity:	0.04	Na^+	12.2	Transparency: 1.75m
Ca-hardness:	-	K^+	0.20	Max vegetated depth: 3m
Total hardness:	-	Ca^{2+}	3.8	Nature of bottom: peaty
Total P:	0.85	Mg^{2+}	12.8	silt

Site description and comments

Small shallow soft water lake with peaty bottom. Surrounded by bog and peat with rocky outcrops on shoreline.

Emergent Zone: Scirpus lacustris (13) and Phragmites beds (150) occur. Shores rocky otherwise.

Floating leaf zone: Small areas of Nymphaea alba, Nuphar lutea or Potamogetan natans occur.

Submergents zone: Areas with Eriocaulon aquaticum (13) or Juncus bulbosus (14) dominant occur to 2m depth. At 3m depth Najas flexilis is the dominant species.

Dominant plankton species: mixture of species.

Ellenberg Values		L	T	K	F	R	N
Relevé No.	13	7.3	4.6	2.3	11.0	4.6	3.1
	14	6.0	4.0	5.0	12.0	7.0	6.0
	40	7.2	3.7	4.0	11.5	6.7	3.8
	150	7	4.8	3	10.4	5	4.2
Lough Nafeakle		6.9	4.3	3.6	11.2	5.8	4.3

Relevé Details

Relevé No. 13

Location: North-West shore, in bay
Size: 10 x 10m, Slope: gentle, Exposure: sheltered, Water depth: 1-2m
Soil: rocky and peaty silt

	% Cover	Height(m)	Dominant species
Submergents	90	-	Eriocaulon aquaticum
Emergents	1	-	Scirpus lacustris
Total	90	-	Eriocaulon aquaticum

Classification: Eriocaulo-Lobelietum (Subunit XVa)
Remarks: Spirogyra spp. are the dominant algae. Eriocaulon aquaticum forms a root mat. Where the mat is broken up clear areas exists with Utricularia vulgaris agg. Elatine hexandra, Myriophyllum alterniflorum and Chara fragilis.

Relevé No. 14

Location: open water
Size: 5 x 5m, Slope: steep, Exposure: sheltered, Water depth: 0.75-2m
Soil: peat

	% Cover	Height (m)	Dominant species
Submergents	95	1	Juncus bulbosus
Total	95	1	Juncus bulbosus

Classification: Community of Juncus bulbosus f. fluitans. (Subunit XVI)

Remarks: This vegetation is 5m wide and changes abrubtly into the Najas flexilis band. Hapalosiphon is the dominant alga.

Relevé 40

Location: open water
Size: 10 x 2 m, Slope: none, Exposure: sheltered, Water depth: 3m

Soil: peaty mud

	% Cover	Height (m)	Dominant species
Emergents	20	0.10	Najas flexilis
Total	20	0.10	Najas flexilis

Classification: Community of Najas flexilis and Potamogeton berchtoldii (Subunit XIX).

Remarks: Roots of plants seen to be encased in some iron deposit (anaerobic?). Hapalosiphon is the dominant alga. In centre of lake Nitella translucens and Utricularia vulgaris agg. occur.

Relevé No. 150

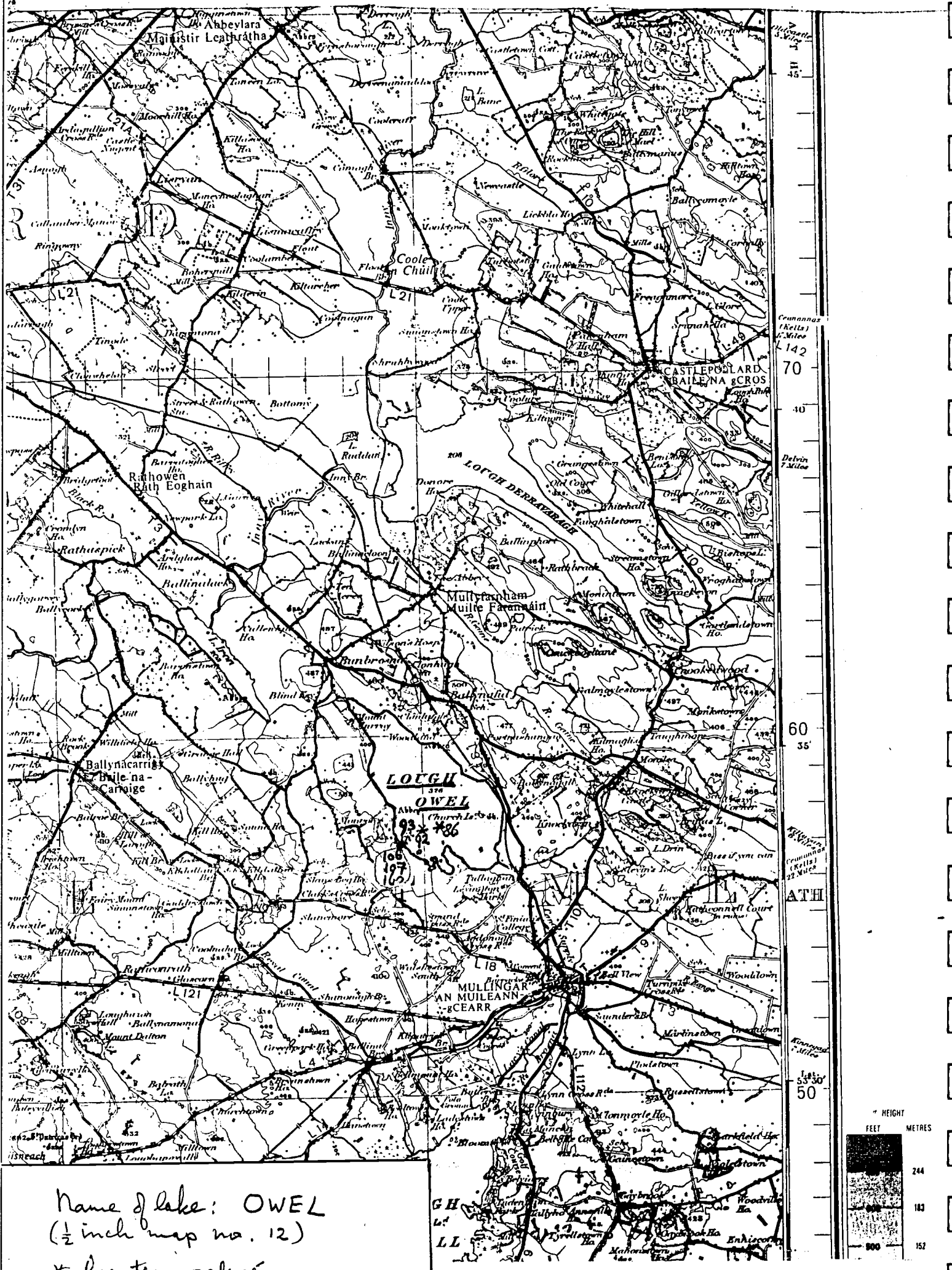
Location: Southern shore.

Size: 5 x 1m, Slope: gentle, Exposure: sheltered, Water depth: 0.15m

Soil: peaty

	% Cover	Height (m)	Dominant species
Submergents	50	0.05	Eriocaulon aquaticum
Floating leaf	30	0.15	Potamogeton natans
Emergents	5	-	Phragmites australis
Total	80	0.05	Eriocaulon aquaticum

Classification: Eriocaulo - Lobelietum (Subunit XV a)



Name of lake: OWEL
($\frac{1}{2}$ inch map no. 12)
* location relevé

Name of lake: Owel Lake No. 33

General Information

County: Westmeath
O.S. ½ inch sheet no. 12
O.S. 6 inch sheet no. 11, 12, 18, 19.
Grid Ref: N 397 572.
Sampling date: 6-9-77
Drainage order of inflowing stream: 4

Altitude: 99.5m
Geology: limestone
Ecological Division: 3
Area: 950 ha.
Max. Length: 6 km.

Physico-chemical information (for units see Table 2)

Conductivity: 255
Alkalinity : 0.19
Ca-hardness : 56
Total hardness: 76
Total P : 0.73

Cl^- 9.9
Na^+ 6.7
K^+ 0.41
Ca^{2+} 27.4
Mg^{2+} 6.6

Max. depth: 13.2 m
Transparency: 2.90 m
Max. vegetated depth: 7m
Nature of bottom: silty marl and mud, on shores: exposed: stony; sheltered: muddy, peaty.

Site description and comments

Large calcareous lake with mostly exposed stony shores. The maximum vegetated depth is much greater than the transparency. Usually there is only a difference of 1 meter. This may indicate recent eutrophication of the water, triggering an unusually high plankton crop.

Emergent zone: Mostly rocky exposed shores with sparse emergents. On sheltered shores going lakeward: Carex rostrata (106) Phragmites australis (160), Scirpus lacustris (106). On more exposed shores (107) fringe of Eleocharis palustris.

Floating leaf zone: not present.

Submergent zone: Dominant is at 2 m depth Chara aculeolata (93), at 3 m depth Chara rudris (92) at 6 m depth Chara contraria (86).

Dominant plankton species: Ceratium hirundiniella, Dinobryon, Fragillaria crotonensis.

Ellenberg values		L	T	K	F	R	N
Relevé No.	86	6.0	5.5	4.3	11.8	6.7	5.8
	92	6	-	-	12	7	8
	93	6	-	-	12	7	8
	160	7.3	5	3	10.3	6.5	3.5
Lough Owel		6.3	5.3	3.7	11.5	6.8	6.3

Relevé details

Relevé No. 86

Location: open water
Size: 10 x 10 m, Slope: gentle, Exposure: enclosed, Water depth: 6 m
Soil: silty mud, shell remains.

	% Cover	Height (m)	Dominant species
Submergents	90	0.15	Chara contraria
Total	90	0.15	Chara contraria

Classification: Community of Chara contraria (Subunit XXXI).
Remarks: Potamogeton perfoliatus was found up to 7 m depth. Curious holes are present in the vegetation. Small diatoms epiphytic on Chara contraria. Forms of Chara contraria occur with and without cortex, the corticated form predominates.

Relevé No. 92

Location: open water
Size: 10 x 10m, Slope: none, Exposure: exposed, Water depth: 31.5m

Soil: silty marl.

	% Cover	Height (m)	Dominant species
Submergents	90	0.75	Chara rudris
Total	90	6.75	Chara rudris

Classification: Community of Chara contraria (Subunit XXXI), few actively growing epiphytes in carbonate deposits on Chara.

Relevé No. 93

Location: open water
Size: 10 X 10m, Slope: none, Exposure: exposed, Water depth: 2.20m
Soil: silt over marl with shell remains, at 50 cm depth peat.

	% Cover	Height (m)	Dominant species
Submergents	100		Chara aculeolata
Total	100		Chara aculeolata

Classification: Community of Chara aculeolata (Subunit XXXII).
Remarks: Chara tomentosa is in general surrounded by Chara contraria, while large areas of Chara aculeolata cover the rest of the area. Few actively growing epiphytes in carbonate deposits on Chara.

Relevé No. 106

Location: Carex rostrata fringe, South-West shore
Size: 2 X 1 m, Slope: none, Exposure: sheltered, Water depth: 0.05m
Soil: soft peaty mud.

	% Cover	Height (m)	Dominant species
Emergents	70	0.50	Carex rostrata and Berula erecta
Total	70	0.50	Carex rostrata and Berula erecta

Classification: Community of Berula erecta and Scirpus lacustris (Subunit VI).

Remarks: The Carex rostrata (band (4 m wide) occurs landwards of the Phragmites dominated fringe. Scirpus lacustris occurs in district parallel zones or interspersed with the Phragmites.

Relevé No. 107

Location: Eleocharis palustris fringe, South-West shore
Size: 1 X 1 m, Slope: none, Exposure: sheltered, Water depth: 0.05 m
Soil: soft peaty mud, with stones.

	% Cover	Height (m)	Dominant species
Emergents	60	0.50	Eleocharis palustris
Total	60	0.50	Eleocharis palustris

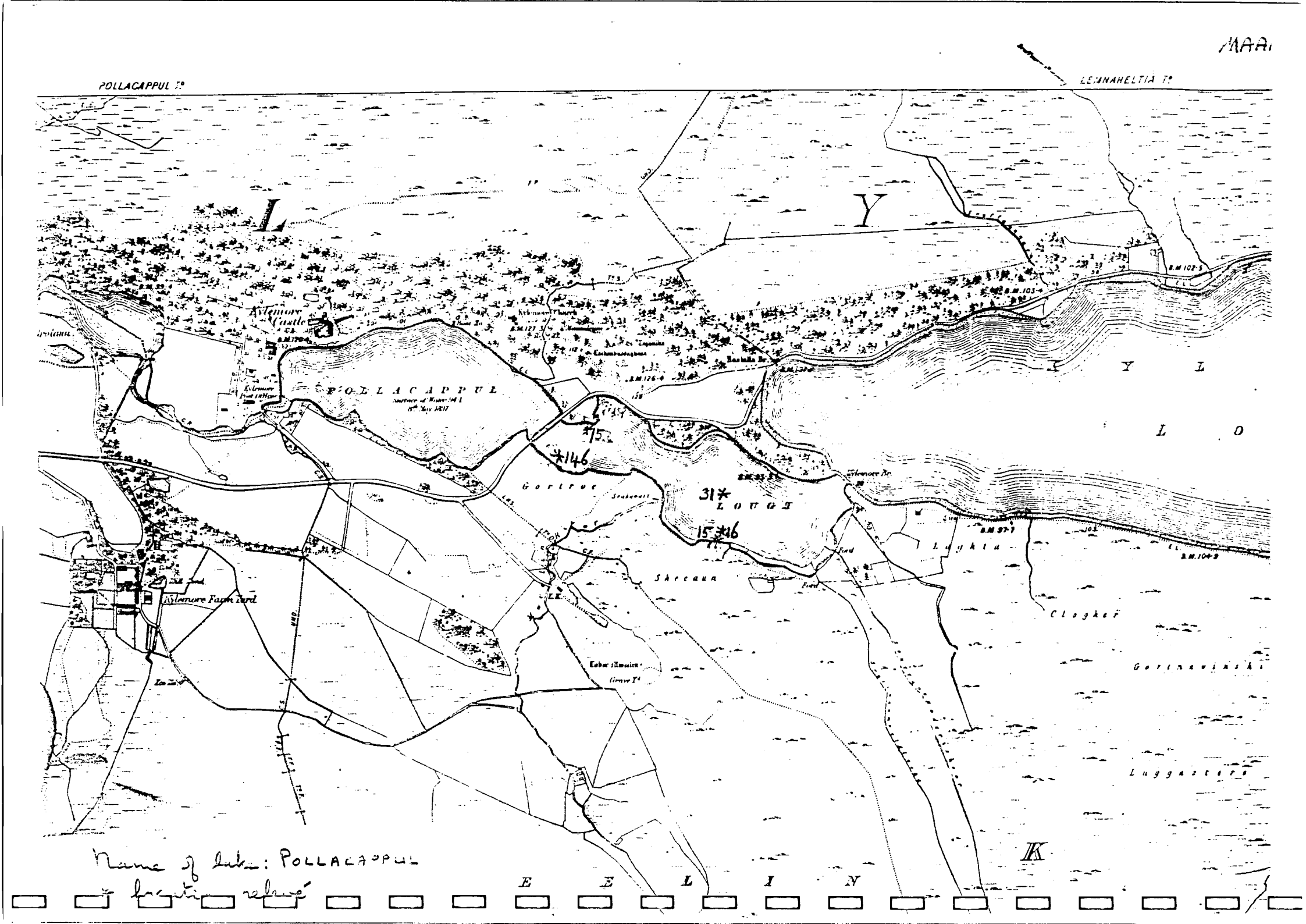
Classification: Community of Eleocharis palustris (Subunit V)

Relevé No. 160

Location: Phragmites fringe, South-West shore.
Size: 2 X 1 m, Slope: none, Exposure: sheltered: Water depth: 0.10 m
Soil: firm mud.

	% Cover	Height(m)	Dominant species
Submergents	10	-	Chara contraria
Floating leaf	1	0.10	Nuphar lutea
Emergents	5	1.50	Phragmites australis
Total	10	-	Chara contraria

Classification: Community of Chara contraria (Subunit XXXI)
Remarks: Chara aspera was noted in the Phragmites zone, with a cover of about 40% (not in this relevé).


POLLACAPPUL T.D
LEANAHELTIA T.D
L
Y
Kilmore Castle
POLLACAPPUL
Kilmore Church
Kilmore Farm Yard
Kilmore Rd
Kilmore Rd
Gortroe
Scrubwell
LOUGH
Shecaun
Ford
Loughan
Clogher
Gortnavinshi
Luggantee
K
*146
31*
15*16
Name of lake: POLLACAPPUL
EELIN

Name of lake: Pollacappul Lake No.: 34

General information

County: Galway
O.S. ½ inch sheet no.: 10
O.S. 6 inch sheet no.: 23
Grid ref: L765 583
Sampling date: 11-8-77
Drainage order of inflowing stream: 19

Altitude: 28.7 m
Geology: shist and gneiss
Area: 30 ha
Max. length: 1.4 km

Physico-chemical information (for units see Table 2)

Conductivity:	75	Cl^-	Max. depth: 1.75m
Alkalinity:	0.16	Na^+ 6.2	Transparency: >depth
Ca-hardness:	-	K^+ 0.23	Max. vegetated depth: 1.75m
Total hardness:	-	Ca^{2+} 4.0	Nature of bottom: silty mud,
Total P:	0.82	Mg^{2+} 6.0	sandy and stony or peaty mud on shores.

Site description and comments

Shallow relatively sheltered soft water lake, surrounded by mountains and immediately downstream from a large lake (Kylemore Lake).

Emergent zone: Going lakewards Carex rostrata fringe (147) or sparse Equisetum fluviatile band (16), Phragmites band (148), Scirpus lacustris fringe (16). Scirpus lacustris and Phragmites australis are the dominant emergents of the lake.

Floating leaf zone: Nymphaea alba is dominant in the floating leaf zone, Potamogetan natans also occurs.

Submergent zone: In the shallows Littorella uniflora (152) or Eriocaulon aquaticum (15, 16, 146, 147, 148) dominate, in the deeper water Isoetes lacustris (31). Pillularia globulifera is abundant along the sheltered southern shore but absent from the Northern shore. Subularia aquatica and Najas flexilis only occur on the Northern shore near the bridge.

Dominant plankton species: mixture of species, Desmidiaceae abundant

Ellenberg values		L	T	K	F	R	N
Relevé No:	15	7.0	-	2.0	10.0	-	2.0
	16	7.7	4.5	2.8	10.9	4.4	3.0
	31	7.6	5.0	2.5	10.4	3.6	2.0
	146	7.6	5.7	2	9.2	2	2.8
	147	7.6	4.7	2.8	10.3	4.8	3.3
	148	7.3	4.7	2.8	10	5.2	3.7
	152	7	4	2	10.7	2.5	2
Pollacappal Lough		7.4	4.8	2.4	10.2	3.8	2.7

Relevé details

Relevé No. 15

Location: South shore
Size: 1 X 1 m, Slope: gentle, Exposure: sheltered, Water depth: 0.10m
Soil: stony

	% Cover	Height (m)	Dominant species
Submergents	5	0.03	Littorella uniflora
Total	5	0.03	Littorella uniflora

Classification: Eriocaulo-Lobelietum (Subumit XVa)

Relevé No. 16

Location: South shore, landward side of sparse emergent fringe
Size: 3 X 1.5 m, Slope: none, Exposure: sheltered, Water depth: 0.50 m
Soil: sandy and stony

	% Cover	Height(m)	Dominant species
Submergents	90	0.08	Eriocaulon aquaticum
Emergents	1	1	Scirpus lacustris
Total	90	1	Eriocaulon aquaticum

Classification: Eriocaulo-Lobelietum Isoetetosum (Subunit XV b)

Remarks: Dominant alge for this relevé are Oedogonium and Spirogyra. Pillularia globulifera extends into denser Scirpus fringe, going landward, where Potamogeton berchtoldi occurs occasionally. Soil in Scirpus zone is muddy. Utricularia vulgasis agg. is found lakeward of the Scirpus. Going landward, more into the Equisetum band, Pillularia does not occur and Littorella and Lobelia decrease.

Relevé No. 31

Location: open water, centre of lake.
Size: 5 X 5 m, Slope: none, Exposure: sheltered, Water depth: 1.75m
Soil: silty mud

	% Cover	Height (m)	Dominant species
Submergents	100	0.20	Isoetes lacustris
Total	100	0.20	Isoetes lacustris

Classification: Eriocaulo-Lobelietum Isoetetosum (Subunit XVb).
Remarks: Oedogonium (7.5μ,12.5μ) main algae.

Relevé No. 146

Location: South shore of lake, landward of Carex rostrata and Scirpus lacustris band.
Size: 2 X 1 m, Slope: none, Exposure: sheltered, Water depth: 0.05m
Soil: sandy (at 35 cm depth peaty)

	% Cover	Height(m)	Dominant species
Emergents	80	0.10	Eriocaulon aquaticum
Total	80	0.10	Eriocaulon aquaticum

Classification: Eriocaulo-Lobelietum (Subunit XVa)
Remarks: This vegetation occurs in a band 5 m wide.

Relevé No. 147

Location: Carex rostrata fringe, South shore lakeward of 146
Size: 2 X 1 m, Slope: none, Exposure: sheltered, Water depth: 0.40 m
Soil: sandy, peaty underneath.

	% Cover	Height (m)	Dominant species
Submergents	70	-	Eriocaulon aquaticum
Floating leaf	1	0.40	Potamogeton natans
Emergents	25	1	Carex rostrata
Gotal	90	-	Eriocaulon aquaticum

Classification: Eriocaulo-Lobelietum (Subunit XVa)

Relevé No. 148

Location: North shore, in sparse Phragmites fringe
Size: 2 X 1 m, Slope: none, Exposure: sheltered, Water depth: 0.10m
Soil: peaty mud

	% Cover	Heigth (m)	Dominant species
Submergents	95	-	Eriocaulan aquaticum
Floating leaf	1	0.10	Potamogetan natans
Emergents	5	1.50	Phragmites australis
Total	95	-	Eriocaulon aquaticum

Classification: Eriocaulo-Lobelietum (Subunit XVa)

Relevé No. 152

Location: southern shore
Size: 1 X 1 m, Slope: gentle, Exposure: exposed, Water depth: 0.10 m
Soil: stony

	% Cover	Height(m)	Dominant species
Submergents	15	0.01	Littorella uniflora
Total	15	0.01	Littorella uniflora

Classification: Eriocaulo-Lobelietum (Subunit XVa).

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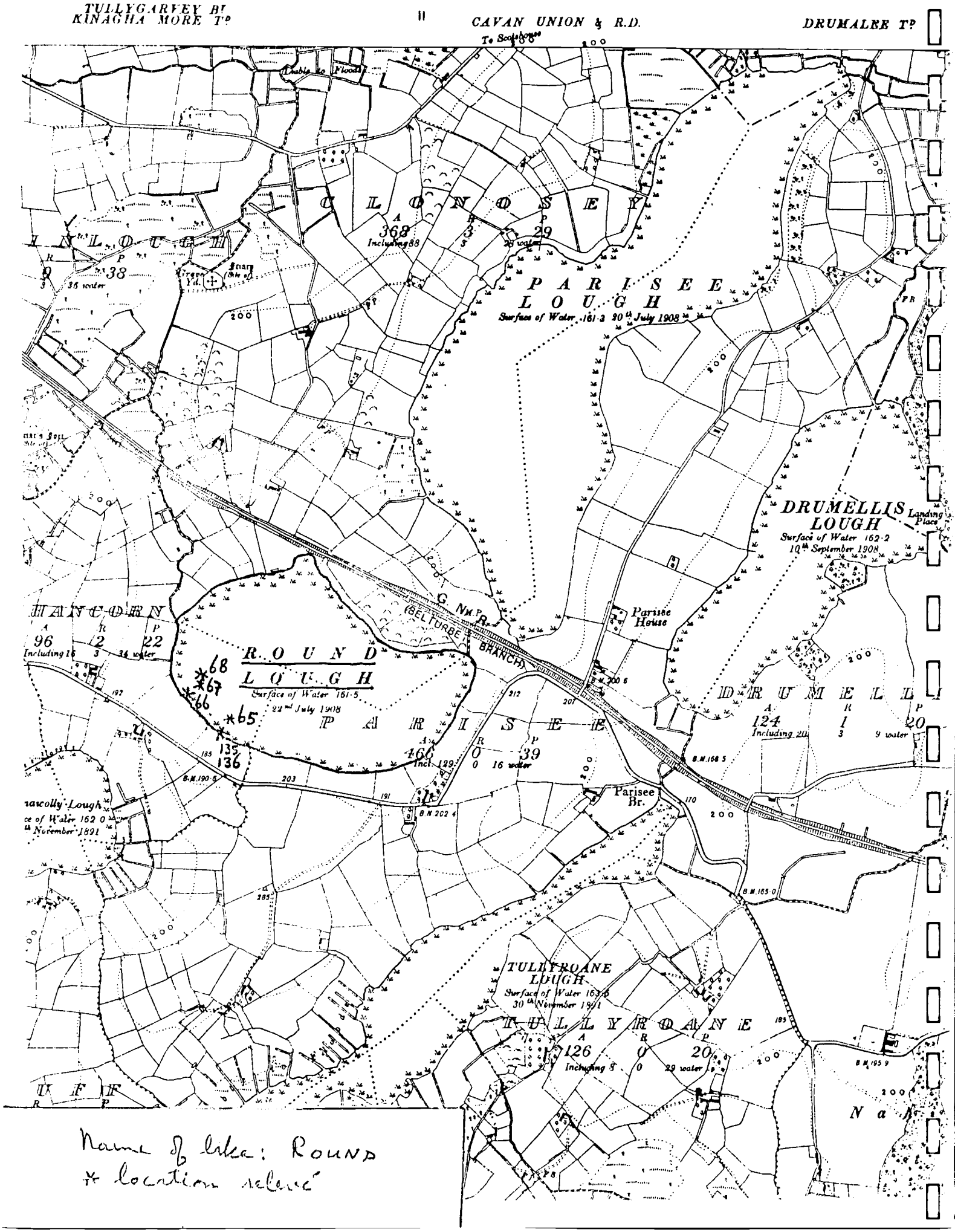


Name of lake: Round

General Information

County: Cavan
O.S. ½ inch sheet no.: 8
O.S. 6 inch sheet no.: 15
Grid ref: H392 153
Sampling date: 9-9-77
Drainage order of inflowing stream: 2

Altitude: 49 m
Geology: limestone
Ecological division:3
Area: 24 ha
Max. length: 0.7 km

Physico-chemical information (for units see Table 2)

conductivity: 232
alkalinity : 0.15
mCa-hardness : 52
total hardness: 84
total p: 0.82

Cl^- 10.7
Na^+ 8.2
K^+ 0.8
Ca^{2+} 29.0
Mg^{2+} 8.4

Max. depth: -
Transparency: 4m
Max. vegetated depth: 5m
Nature of bottom:
soft black mud, on shores peaty sand.

Site description and comments

Sheltered drumlin lake with peaty sandy soil, on shores fringed by tall reeds (mainly Phragmites and lakeward Scirpus lacustris), water hard, clear. Lake bottom consists of soft black mud, dominant submergents Lemna trisulca, Elodea canadensis and Stratiotes aloides.

Emergent zones: Going from the shore lakewards the following emergents dominate the vegetation in turn. Carex rostrata, Cladium mariscus, Typha latifolia, Phragmites australis and Scirpus lacustris. The Cladium and Typha bands occur only on the South-East shore.

Floating leaf zone: Nuphar lutea is present in the emergent zone, no floating leaf zone present lakeward of reeds.

Submergents: In the South West corner of the lake just beyond the reed fringe Stratiotes aloides is dominant. Elsewhere Elodea canadensis or Chara rudris dominate. In the deepest areas (up to

5 m) Cladophora occurs. In the reeds Lemna trisulca is the major submergent.

Dominant plankton species: Gloeotrichia sp. and Anabaena spp. (5µ, 12µ).

Ellenberg values		L	T	K	F	R	N
Relevé No:	65	7.5	6.5	4.3	11.8	6.7	6.3
	66	7.4	5.8	4.0	11.4	7	5.8
	67	7.0	6.0	4.5	12	7	6.8
	68	7.0	5.8	4.2	11.8	6.6	6.2
Round Lough:		7.2	6	4.3	11.8	6.8	6.3

Relevé No. 65

Location: in open water
Size: 5 X 5 m, Slope: gentle, Exposure: sheltered, Water depth: 4m
Soil: soft black mud

	% Cover	Height (m)	Dominant species
Submergents	90	0.20	Elodea canadensis
Total	90	0.20	Elodea canadensis

Classification: Community of Elodea canadensis and Lemna trisulca (Subunit XXVI).
Remarks: Deeper than 4m the bottom is covered with patches of Lemna trisulca. Common epiphytic algae: Anabaena 2.5-3µ, Epithemia. Cladophora also present.

Relevé No. 66

Location: in Scirpus fringe.
Size: 3 x 1m, Slope: steep, Exposure: sheltered, Water depth: 1m
Soil: soft black mud.

	% Cover	Height (m)	Dominant species
Submergents	10	-	Stratiotes aloides
Emergents	40	2.50	Scirpus lacustris
Total	50	2.50	Scirpus lacustris

Classification: Community of Elodea canadensis and Lemna trisulca (Subunit XXVI)

Remarks: Just outside the Scirpus bed Stratiotes is most common, reaching a cover of 50% in places. Filamentous green algae most dominant: Spirogyra 24μ, 58μ and Oedogonium 25μ.

Relevé No. 67

Location: in open water
Size: 5 x 5m, Slope: gentle, Exposure: sheltered, Water depth: 2.25m
Soil: soft black mud.

	% Cover	Height (m)	Dominant species
Submergents	95	0.75	Stratiotes aloides
Total	95	0.75	Stratiotes aloides

Classification: Community of Elodea canadensis and Lemna trisulca (Subunit XXVI)
Remarks: Cladophora dominant alga.

Relevé No. 68

Location: open water
Size: 10 x 2m, Slope: gentle, Exposure: sheltered, Water depth: 4m
Soil: soft black mud

	% Cover	Height (m)	Dominant species
Submergents	50	-	Elodea canadensis
Total	50	-	Elodea canadensis

Classification: Community of Elodea canadensis and Lemna trisulca (Subunit XXVI).
Remarks: Macrophytes become scarcer and scarcer towards 5m depth, until only Cladophora is left. Cladophora is the dominant alga in the relevé.

Relevé No. 135

Location: emergent fringe, Southern shore of lake.
Size: 1 x 1m , Slope: none, Exposure: sheltered, Water depth 0.10m
Soil: sandy peat

	% Cover	Height (m)	Dominant species
Submergents	60	-	Lemna trisulca
Emergents	29	0.40	Carex rostrata
Total	75	-	Lemna trisulca

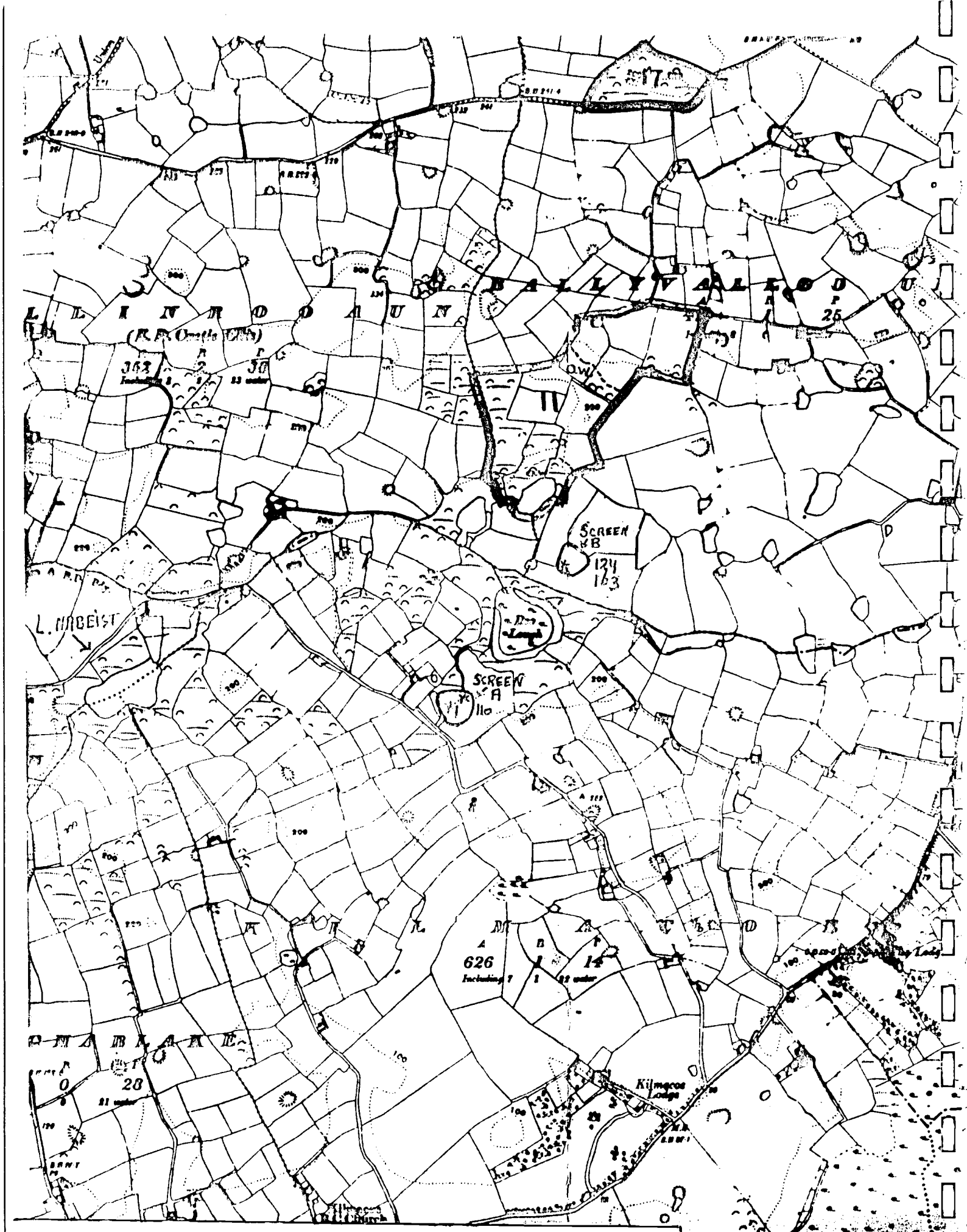
Classification: Carecetum rostratae subassociation with elements of Littorellion (subunit II a)
Remarks: Some grazing of this vegetation

Relevé No. 136

Location: emergent fringe, Southern shore, lakeward of 135.
Size: 2 x 1m, Slope: gentle, Exposure: sheltered, Water depth: 0.50m
Soil: sandy peat

	% Cover	Height (m)	Dominant species
Submergents	20	-	Littorella uniflora
Emergents	5	2	Phragmites australis
Total	25	-	Littorella uniflora

Classification: Community of Littorella uniflora and Scirpus lacustris (Subunit XII)
Remarks: Stratiotes aloides was found in this vegetation.



Name of lakes: SCREEN A and SCREEN B.

* location relevé

Name of lake: Screen A Lake No. 36

General Information

County: Wexford
O.S. ½ inch sheet no.: 23
O.S. 6 inch sheet no.: 33
Grid Ref. T 102 294
Sampling date: 27.7.77
Drainage order of inflowing stream: 0

Altitude: between 30-60m
Geology: Cambrian
Ecological division: 5
Area: 1 ha
Max length: 0.08 km

Physico-chemical information (for units see Table 2)

Conductivity:	150	Cl^+	19.2	Max depth: 3m
Alkalinity:	0.10	Na^+	15.4	Transparency: 1.50 m
Ca-hardness:	7	K^+	0.53	Max vegetated depth: 3m
Total hardness:	17	Ca^{2+}	3.5	Nature of bottom: sandy shores, black organic mud on bottom
Total P:	0.81	Mg^{2+}	2.3	

Site description and comments

Small steepsided kettle hole with tiny catchment area and brown water, surrounding land dominated by bracken. Marginal vegetation dominated by Carex rostrata. Major submergents are Littorella uniflora at the edge and Nitella translucens in deeper water (1-3m depth).

Emergent Zone: Carex rostrata dominated fringe with Eleocharis palustris dominant in deeper water.

Floating leaf zone: Potamogeton polygonifolius occurs with Eleocharis palustris and Myriophyllum alterniflorium. Polygonum amphibium present nearer the grassland on the shore, in a cattle drinking place, on NW side of lake.

Submergents zones: Lakeward of emergent and floating leaf zone bare areas occur with occasional Myriophyllum alterniflorum and in deeper water areas of 100% Nitella translucens. Coleochaete nitellarum occurs massively as an epiphyte on the Nitella., Spirogyra (24μ) is also very common.

Dominant plankton species: No sample taken.

Relevé Details

Relevé No. 1

Location: in open water
Size: 3 x 3m , Slope: gentle, Exposure: sheltered, Water depth: 1.50m
Soil: black organic mud

	% Cover	Height (m)	Dominant species
Submergents	100	0.60	Nitella translucens
Total	100	0.60	Nitella translucens

Classification: Community of Nitella translucens (Subunit XXI b)
Remarks: The Nitella zone extends from 1-3m depth.

Relevé No. 110

Location: Emergent fringe
Size: 1 x 0.50m, Slope: slight, Exposure: sheltered, Water depth: 0.50m
Soil: soft mud

	% Cover	Height (m)	Dominant species
Submergents	40	-	Littorella uniflora
Emergents	70	0.60	Carex rostrata
Total	100	0.60	Carex rostrata

Classification: Carecetum rostratae, subassociation with elements of Littorellion (Subunit IIa)
Remarks: In other places in the Carex rostrata fringe Littorella uniflora and Myriophyllum alterniflorum (the latter is not present in this relevé) reach a cover of 100%. The lake side edge of this zone is dominated by Eleocharis palustris, Potamogeton polygonifolius and Myriophyllum alterniflorum.

Name of Lake: Screen B Site No. 37

General Information

County: Wexford
O.S. ½ inch sheet no. 23
O.S. 6 inch sheet no. 33
Grid Ref.: T 105 297
Sampling date: 27.7.77
Drainage order of inflowing stream: 0

Altitude: between 30-60m
Geology: Cambrian
Ecological division: 5
Area: 1 ha
Max length: 0.07 km

Physico-chemical information (for units see Table 2)

Conductivity:	160	Cl^+	19.5	Max depth:	3.60m
Alkalinity:	0.18	Na^+	15.4	Transparency:	-
Ca-hardness:	12	K^+	0.38	Max vegetated depth:	2.40m
Total hardness:	27	Ca^{2+}	5.7	Nature of bottom:	sand,
Total P:	-	Mg^{2+}	2.3		peaty sand on shores

Site description and comments

Little lake similar to Screen Lake A bordered by Equisetrum fluviatile backed by Carex rostrata. Bottom falls away sharply. Nitella translucens grows to a depth of 2.40m. The hydrosere succession is further advanced in this lake than in Screen lake A. For map see Screen A.

Emergent Zones: Carex rostrata dominated zone with at its lakeward side a fringe of Equisetum fluviatile.

Floating leaf zone: Potamogeton polygonifolius is present in the emergent fringe, but not as a separate zone.

Submergent zone: Nitella translucens is dominant in the open water (1.60 - 2.40m depth). It and Myriophyllum spicatum occur in the emergent fringe.

Dominant plankton species: No sample taken.

Ellenberg Values		L	T	K	F	R	N
Relevé No.	163	7.5	4	2	11	3	4

Relevé Details

Relevé No. 124

Location: Emergent fringe
Size: 2 x 1m, Slope: slight, Exposure: sheltered, Water depth: 0.20m
Soil: eaty sand

	% Cover	Height(m)	Dominant species
Submergents	5	-	Hydrocotyle vulgaris
Floating leaf	1	0.20	Potamogeton polygoniflious
Emergents	30	0.90	Carex rostrata
Total	30	0.90	Carex rostrata

Classification: Carecetum rostratae, subassociation with elements of Littorellion (Subunit IIa)
Remarks: Bulbochaete sp, Hapalosiphon and Scytonema are the dominant benthic algae.

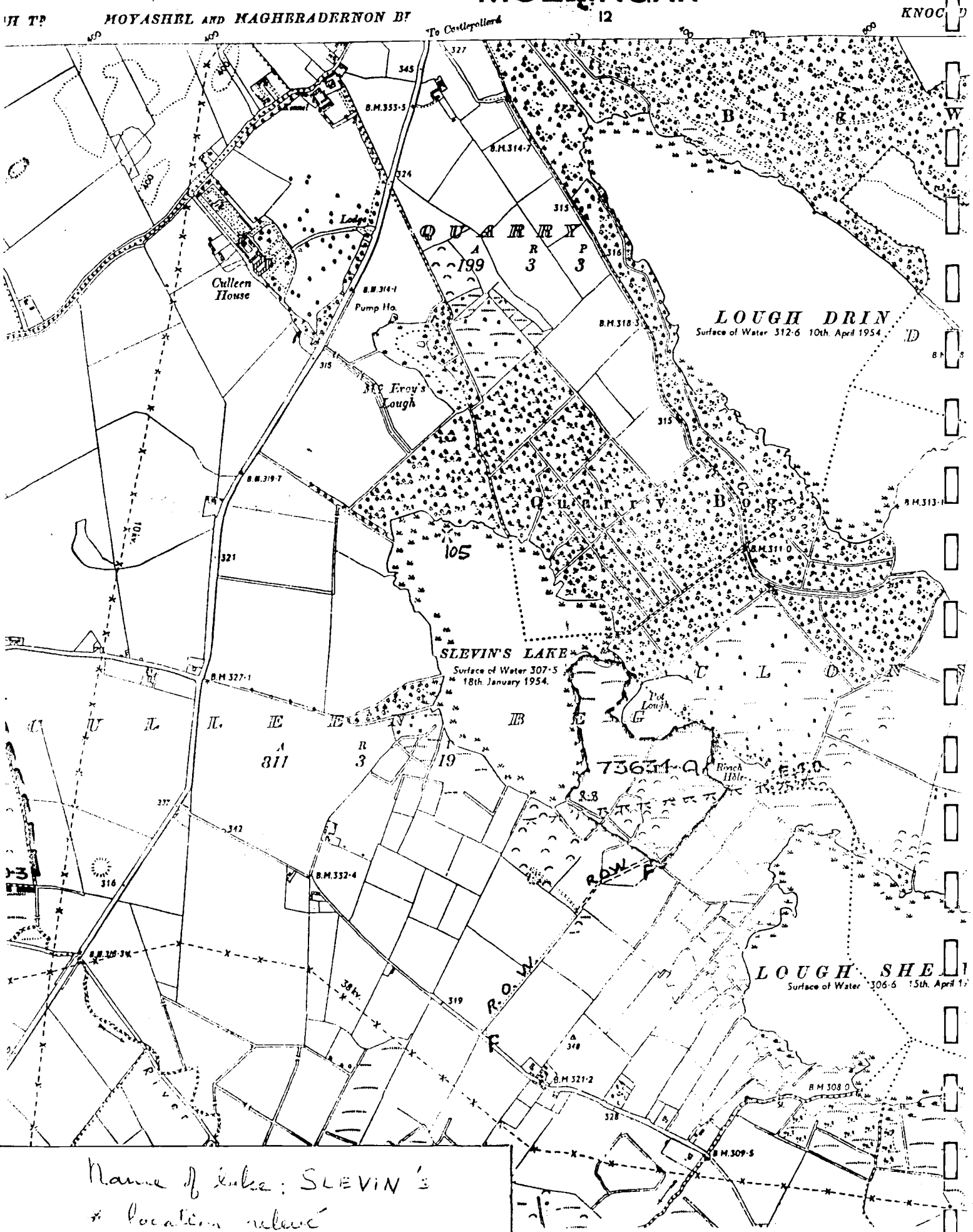
Relevé No. 163

Location: Emergent fringe
Size: 2 x 1m, Slope: slight, Exposure, sheltered, Water depth: 1.50m
Soil: sand

	% Cover	Height (m)	Dominant species
Submergents	5	-	Nitella translucens and Myriophyllum alterniflorum
Emergents	20	2.0	Equisetum fluviatile
Total	25	2.0	Equisetum fluviatile

Classification: Community of Nitella translucens (subunit XXIb)
Remarks: Oscillatoria (8.5) is the most dominant algae in this relevé. In deeper water up to 2.40m Nitella translucens occurs as the only species.

MULLINGAR



Name of lake: SLEVIN'S

* location related

Name of lake: Slevin's Lake No. 38

General Information:

County: Westmeath
O.S. ½ inch sheet No.: 12
O.S. 6 inch sheet No.: 19
Grid. Ref. N 452 561
Sampling date: 7.9.77
Drainage order of inflowing stream: 2

Altitude: 94m
Geology: Limestone
Ecological division: 3
Area: 15 ha
Max length: 0.7km

Physico-chemical information (for units see Table 2)

Conductivity:	520	Cl^+	10.7	Max depth:	-
Alkalinity:	0.43	Na^+	7.6	Transparency:	low due to plankton bloom
Ca-hardness:	125				
Total hardness:	136	K^+	0.37	Max vegetated depth:	1.50m
Total P.:	0.27	Ca^{2+}	61.0	Nature of bottom:	silty mud
		Mg^{2+}	7.5		

Site description and comments:

Small lake fringed with Phragmites and Scirpus. Eutrophicated. Dead fish present and a very heavy plankton bloom.

Emergent zone: Phragmites and Scirpus lacustris fringe

Floating leaf zone: Nuphar lutea

Submergent zone: Contains the following plants: Elodea canadensis, Lemna trisulca, Potamogeton lucens and Chara vulgaris (The cortex of Chara vulgaris was partly imperfect).

Dominant plankton species: dense phytoplankton. Main species: Oscillatoria 5μ and Synedra sp. bloom.

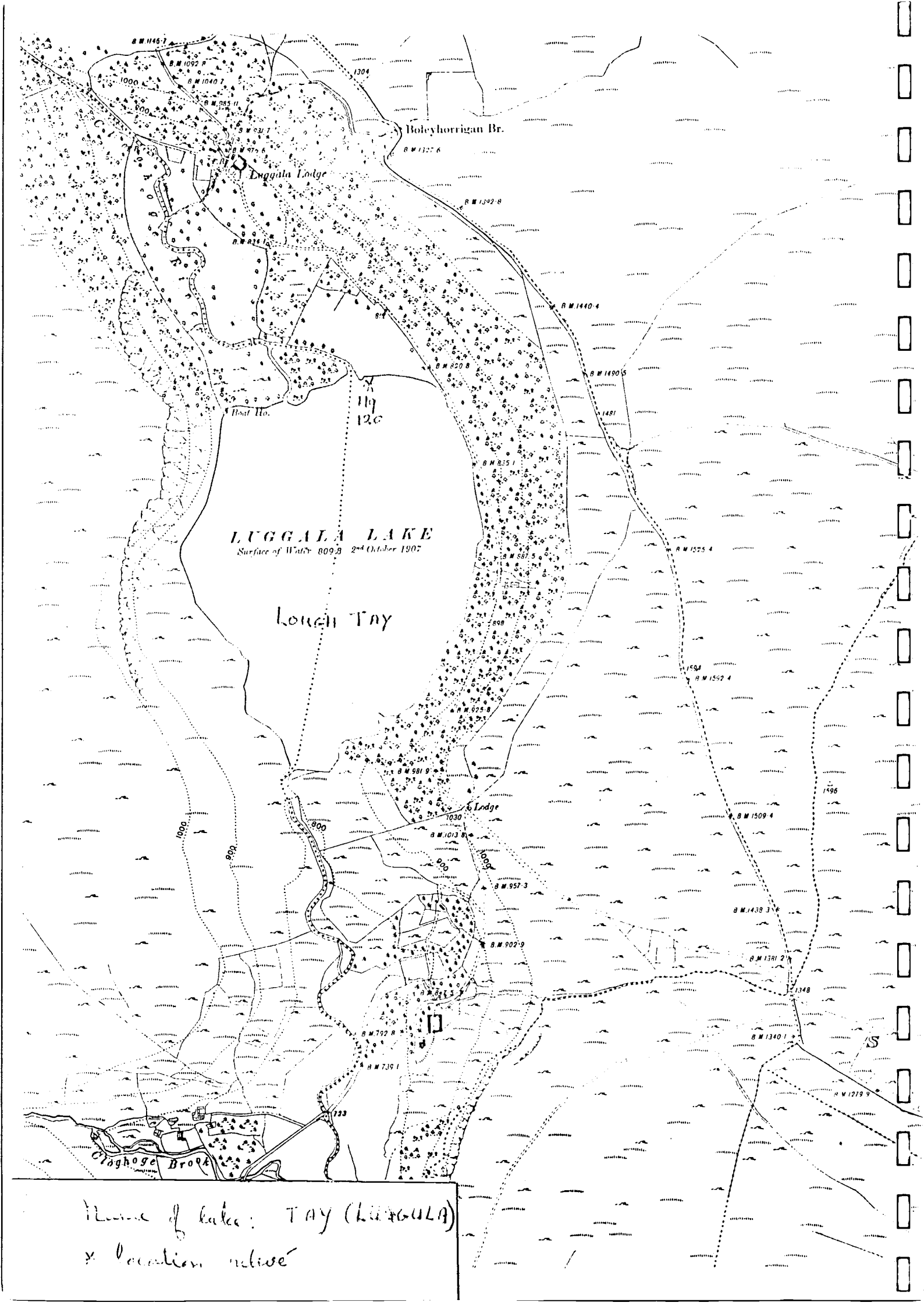
Relevé details

Relevé No. 105

Location: North West Shore, reed bed
Size: 2 x 1m, Slope: gentle, Exposure: sheltered, Water depth: 0.20m
Soil: fen peat

	% Cover	Height(m)	Dominant species
Emergents	60	2	Phragmites australis
Total	60	2	Phragmites australis

Classification: Community of Berula erecta and Scirpus lacustris (Subunit VI)



Name of lake: TAY (LUGGALA)

* Location related

Name of lake: Tay Lake No. 39

General Information

County: Wicklow
O.S. ½ inch sheet no.: 16
O.S. 6 inch sheet no.: 12
Grid Ref. O 164 078
Sampling date: 16.8.79
Drainage order of inflowing stream: 11

Altitude: 246.8m
Geology: Granite
Ecological division: 2
Area:
Max length: 1km

Physico-chemical information (For units se Table 2)

Water not analysed
Conductivity: 47

Max depth: -
Transparency: 2.10m
Max vegetated depth: -
Nature of bottom: stony and sandy

Site description and comments

Soft water lake with stony and sandy shores and sparse vegetation. Main plankton species Eunotia ribbons.

Emergent leaf zone: Littorella uniflora in patches.

Floating leaf zone: absent

Submergents zones: Littorella uniflora and Juncus bulbosus in shallow water, Isoetes lacustris deeper.

Dominant plankton species: Eunotia species

Ellenberg values		L	T	K	F	R	N
Relevé No.	119	7	4	2	12	3	2
	120	7	4	2	11	3	1.5
Lough Tay		7	4	2	11.5	3	1.8

Relevé details

Relevé No. 119

Location: open water, north end
Size: 10x5m, Slope: gentle, Exposure: exposed, Water depth: 1.20m
Soil: gravel

	% Cover	Height (m)	Dominant species
Submergents	20	-	Isoetes lacustris
Total	20	-	Isoetes lacustris

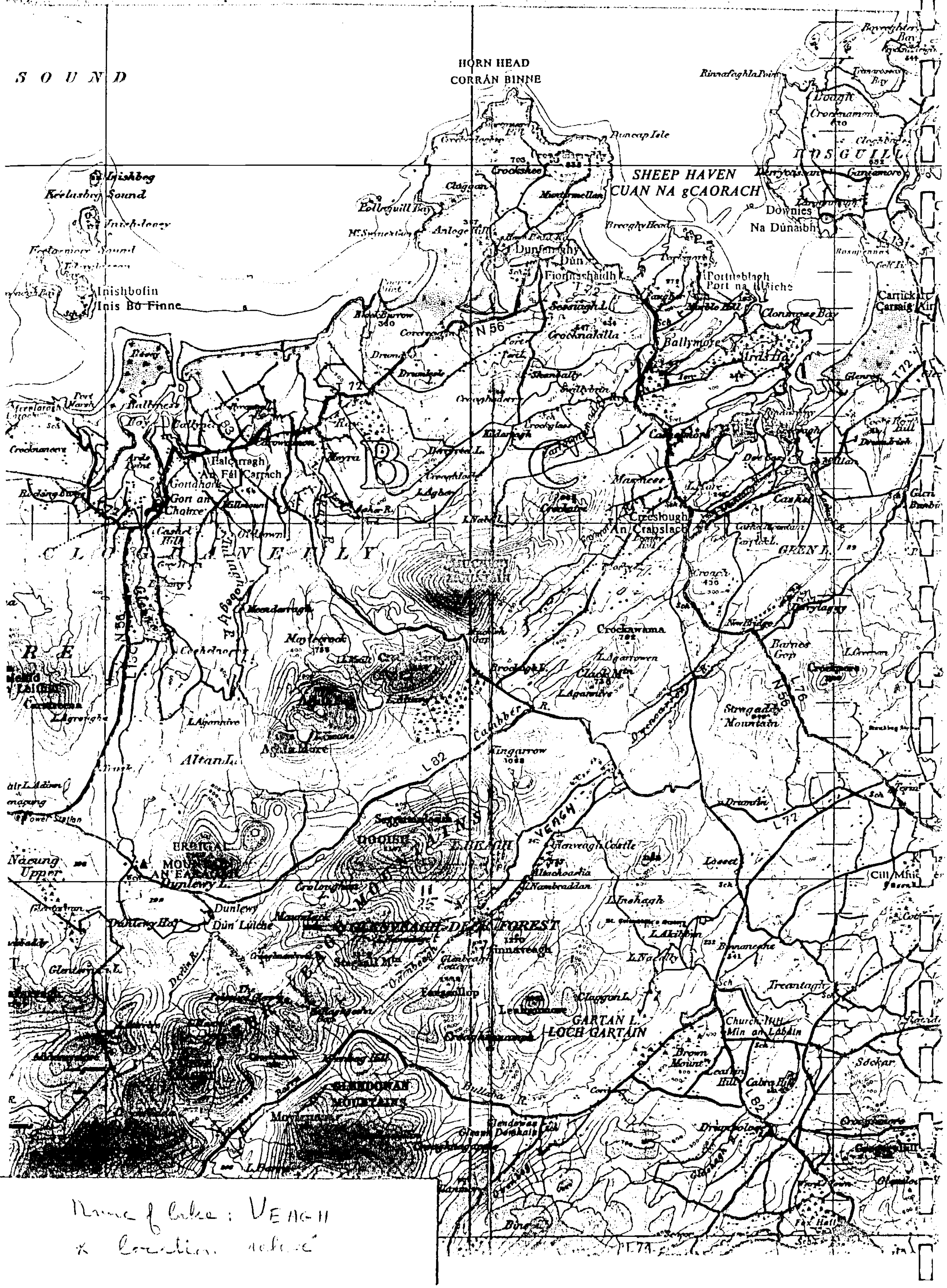
Classification: Community of Isoetes lacustris (Subunit XVII)
Remarks: In shallower water scattered plants of Juncus bulbosus and Isoetes lacustris occur.

Relevé No. 120

Location: open water, north end
Size: 2x2m, Slope: gentle, Exposure: exposed, Water depth: 0.60m
Soil: sand

	% Cover	Height(m)	Dominant species
Submergents	30	-	Littorella uniflora
Total	30	-	Littorella uniflora

Classification: Community of Isoetes lacustris (Subunit XVII)
Remarks: Littorella only occurs in some (more stable) places along the shore.



Name of lake: VEAGH
× Location noted

Name of Lake: Veagh Lake No. 40

General Information

County: Donegal
O.S. ½ inch sheet no.: 1
O.S. 6 inch sheet no.: 34,35,43,44
Grid Ref.: L 002 190
Sampling date: 20.9.77
Drainage order of inflowing stream: 16

Altitude: 43.4m
Geology: Granite
Ecological division: 2
Area: 230 ha
Max length: 5.6km

Physico-chemical information (for units see Table 2)

Conductivity:	63.5	Cl^+	6.4	Max depth: 20m
Alkalinity:	0.004	Na^+	2.5	Transparency: 3m
Ca-hardness:	0	K^+	0.45	Max vegetated depth: 3m
Total hardness:	-	Ca^{2+}	-	Nature of bottom: silty mud,
Total P.	0.57	Mg^{2+}	1.7	in shallows sand and rocks

Site description and comments:

Long narrow deep lake with soft water, rocky and sandy shores. Southern end only investigated. South West end of lake with sandy beach.

Emergent zone: absent

Floating leaf zone: Nuphar lutea and Potamogeton natans occur at mouth of inflowing river

Submergent Zone: In shallow water Littorella uniflora and Lobelia dominant, than Juncus bulbosus (157), at 1.20m Littorella dominant again (11), and in the deeper water (3m) Isoetes echinospora (25).

Dominant plankton species: mixture of species

Ellenberg Values		L	T	K	F	R	N
Relevé No.	11	7.3	5.0	2.0	10.7	3.8	2.7
	25	7.0	3.5	2.3	10.7	2.5	1.3
	157	7.2	4	2.5	9.2	4.3	1.6
Lough Veagh		7.2	4.2	2.3	10.2	3.5	1.9

Relevé details

Relevé No. 11

Location: North West shore, South end of the lake
Size: 5 x 1m, Slope: steep, Exposure: exposed, Water depth: 1.20m
Soil: silt on rocks

	% Cover	Height(m)	Dominant species
Submergents	75	0.05	Littorella uniflora and Lobelia dortmanna
Total	75	0.05	Littorella uniflora and Lobelia dortmanna

Classification: Eriocaulo - Lobelietum (Subunit XVa).
Remarks: Diatom spp. dominant epiphytes. (Tabellaria spp. Eunotia, Gomphonema, Achnanthes sp., Naviculoid Diatoms).

Relevé No. 25

Location: North West shore, South end of the lake (offshore from relevé 11)
Size: 4x4m, Slope: steep, Exposure: exposed, Water depth: 3m
Soil: organic mud

	% Cover	Height (m)	Dominant species
Submergents	20	-	Isoetes echinospora
Total	20	-	Isoetes echinospora

Classification: Community of Isoetes lacustris (Subunit XVII)
Remarks: Isoetes echinospora has curly leaves in this area, while Isoetes lacustris has straight leaves.
Diatoms dominant epiphytes (Gomphonema, Tabellaria flocculosa, Eunotia and Naviculoid Diatoms).

Relevé No. 157

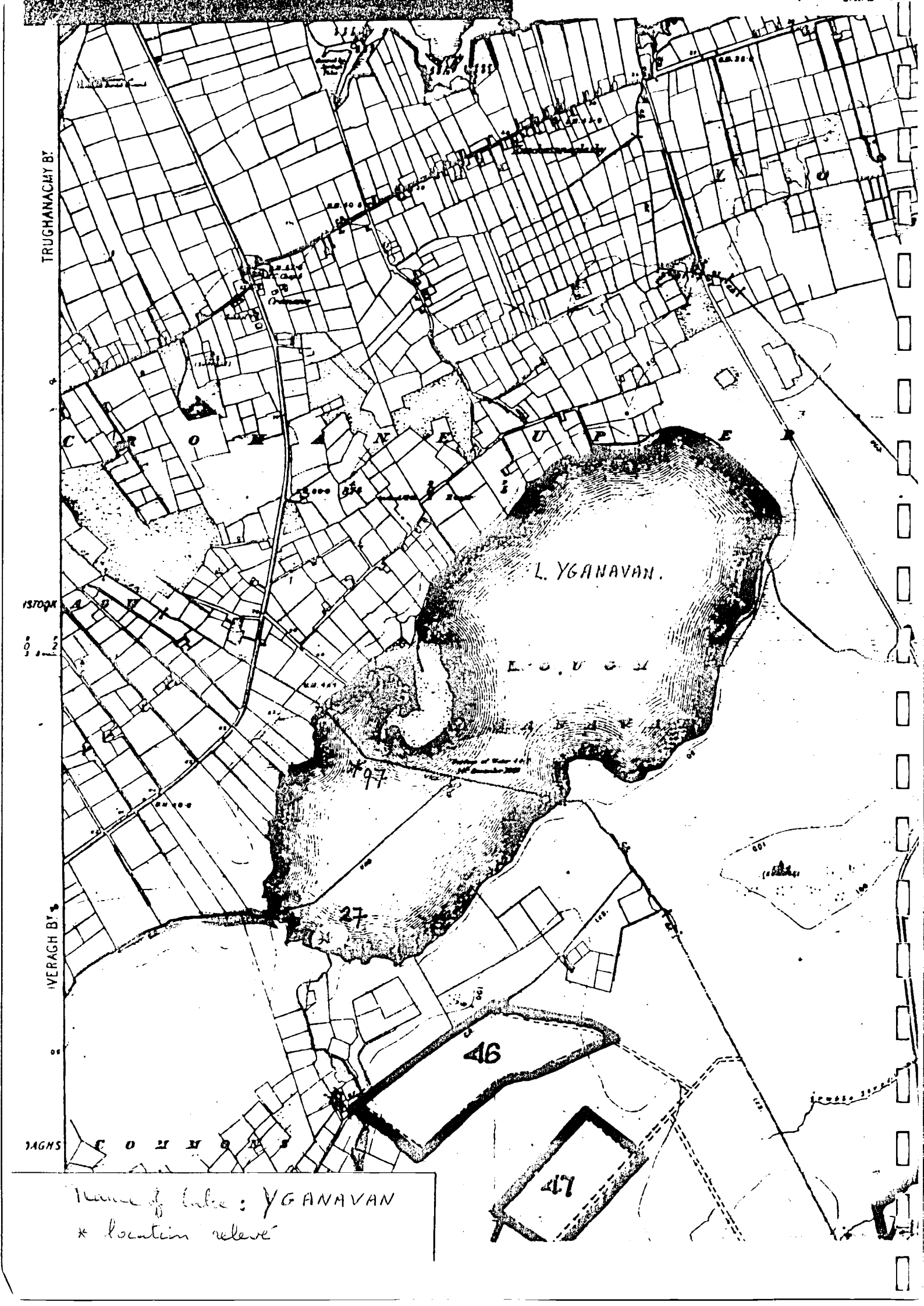
Location: South-shore

Size: 2 x 1m, Slope: gentle, Exposure: exposed, Water depth: 0.50m

Soil: Coarse sand

	% Cover	Height (m)	Dominant species
Submergents	70	0.10	Juncus bulbosus
Total	70	0.10	Juncus bulbosus

Classification: Eriocaulo - Lobelietum (Subunit XVa)



Name of lake : YGANAVAN
* location relevé

Name of Lake: Yganavan Lake No. 41

General Information

County: Kerry Altitude: 13.4m
O.S. ½ inch sheet no.: 20 Geology: Limestone
O.S. 6 inch sheet no.: 56 Ecological division: 7
Grid Ref.: V 708 955 Area: 80 ha
Sampling date: 8.10.77 Max length: 1.6 km
Drainage order of inflowing stream: 0

Physico-chemical information (for units see Table 2)

Conductivity:	129	Cl^+	17.8	Max depth:	0.80m
Alkalinity:	0.09	Na^+	16.0	Transparency:	0.50m
Ca-hardness:	6	K^+	0.45	Max vegetated depth:	0.60m
Total hardness:	18	Ca^{2+}	3.5	Nature of bottom:	sand
Total P:	0.25	Mg^{2+}	16.0		

Site description and comments

Shallow lake with sandy bottom and very brown soft water

Emergent zone: Typha latifolia and Phragmites australis swamp on North West shore

Floating leaf zone: Sparse Potamogeton natans and areas of Sparganium angustifolium

Submergent zone: Dominated by Elatine hexandra lakeward of reeds. In shallow water on rock: Desmosiphon maculans

Dominant plankton species: Botryococcus braunii. Pediastrum sp., Staurastrum spp and Tabellaria fenestrata v. asterioides.

Ellenberg Values		L	T	K	F	R	N
Relevé No.	27	7.5	5.5	2	10.5	3	1.5
	97	8	4	3	11	3	1
Lough Yganavan		7.8	4.8	2.5	10.8	3	1.3

Relevé Details

Relevé No. 27

Location: Southern shore, just lakeward of Typha latifolia band.
Size: 5 x 5m, Slope: none, Exposure: exposed, Water depth: 0.30-0.45m
Soil: sand

	% Cover	Height (m)	Dominant species
Submergents	10	-	Elatine hexandra
Total	10	-	Elatine hexandra

Classification: Community of Isoetes lacustris (Subunit XVII)
Remarks: Closer to the Typha on silt covered sand, Elatine reaches a cover of almost 100%, a moss is the only other species present.
Main algae: Tolypothrix sp

Relevé No. 97

Location: In sheltered bay on West shore
Size: 5 x 5m, Slope: none, Exposure: sheltered, Water depth: 0.60m
Soil: peat

	% Cover	Height (m)	Dominant species
Floating leaf	45	0.60	Sparganium angustifolium
Total	45	0.60	Sparganium angustifolium

Classification: Sparganietum angustifolii (Subunit XVIII)

Table 3 Lake Survey – Classification of Aquatic Vegetation

	I	IIa								IIb				III	IV	
Class or Alliance	Oenanthion aquaticae	Magnocaricion														
Association or Community	Com. of Oenanthe aq. and Apium inund.	Caricetum rostratae												Com. of Carex lasiocarpa	Cladietum marisci	
Subunit number	I	IIa								IIb				III	IV	
Size of quadrat in m^2	4	3	1	4	1	1	2	.5	4	4	9	1	4	4	4	4
Water depth in cm	80	10	10	10	5	10	20	50	20	?	5	0	?	20	5	20
% Cover	100	60	30	80	90	75	30	100	90	60	60	60	50	90	10	60
Lake number	4	6	1	14	30	35	37	36	30	23	16	23	23	12	20	20
Relevé number	79	111	116	112	115	135	124	110	114	130	108	132	131	145	101	141
Number of Taxa	9	16	23	15	20	9	9	11	9	8	10	3	8	3	4	3
Carex nigra					+		+									
Galium palustre				+												
Lycopus europaeus																
Samolus valerandi		+			+											
Typha latifolia													1			
Sparganium erectum											2			N		
Epilobium hirsutum																
Potentilla palustris					1		1			+						
Carex lasiocarpa			1	3										5		
Juncus acutiflorus								N								
Molinia caerulea				+												
Calliergon cuspidatum																
Nasturtium officinale agg.	+															
Myosotis secunda group	+		N													
Sparganium angustifolium			N													
Cladium mariscus															1	3
Berula erecta																
Oenanthe fistulosa		N														
Lemna minor						N										
Potamogeton natans			+													
Nymphaea alba										N						+
Polygonum amphibium																
Fontinalis antipyretica										+			+			
Nuphar lutea													+			
Oenanthe aquatica	3															
Lysimachia vulgaris		N														
Apium nodiflorum		N										+				
Senecio aquaticus			N													
Callitriche hermaphroditica																
Sparganium emersum																
Potamogeton coloratus																
Callitriche species	R															
Alisma plantago-aquatica																

	V			VI			VII	VIII	IX					X						XI		
Class or Alliance	Apion nodiflori			Phragmition																		
Association or Community	Eleocharis palustris Community			Com. of Berula erecta & Scirpus lacustris			Typhetum latifoliae	Typhetum angustifoliae	Phragmitetum australis					Scirpo-Phragmitetum						Scirpetum lacustris		
Subunit number	V			VI			VII	VIII	IX					X						XI		
Size of quadrat in m^2	2	3	1	4	2	4	4	25	7.50	1	25	2	20	4	16	9	4	4	4	25	25	1
Water depth in cm	45	10	5	5	20	25	10	100	10	15	3	35	100	75	150	150	3	15	2	10	30	30
% Cover	50	100	60	70	60	60	50	50	40	25	5	25	60	100	100	55	30	90	60	70	50	100
Lake number	3	6	33	33	38	15	15	6	22	1	12	31	31	31	31	24	10	6	10	12	15	24
Relevé number	117	104	107	106	105	103	143	9	123	164	113	5	2	140	8	71	134	4	128	144	142	126
Number of Taxa	12	17	10	17	8	12	7	4	4	4	3	7	6	8	5	8	3	10	8	3	3	4
Galium palustre	+			+																		
Lycopus europaeus		N																+				
Typha latifolia						N	2											+				
Sparganium erectum		N					N												N	N		
Epilobium hirsutum						N								+								
Carex lasiocarpa										2												
Juncus acutiflorus	1								+													
Calliergon cuspidatum			1	N																		
Nasturtium officinale agg.	+																					
Myosotis secunda group	+		1	1		+																
Berula erecta				2	1	3																
Oenanthe fistulosa		+				+	+														+	
Lemna minor	+						2			+			+									
Polygonum amphibium	1											+	3	1	+							
Fontinalis antipyretica													1	5	5	2						
Nuphar lutea																N						
Lysimachia vulgaris		+																1				
Apium nodiflorum		1	N	+																		
Senecio aquaticus			+	N																		
Callitriche hermaphroditica																N						
Sparganium emersum																N						1
Potamogeton coloratus																					1	
Callitriche species												1										
Alisma plantago-aquatica		+																				

	XII								XIII	XIV
Class or Alliance	Phragmition								Littorellion	
Association or Community	Com. of Littorella uniflora and Scirpus lacustris								Com. of Potamogeton coloratus & [illegible]	Com. of Chara and Juncus bulb. [illegible]
Subunit number	XII								XIII	XIV
Size of quadrat in m^2	1	4	1	1	4	10	3	2	4	3
Water depth in cm	20	50	1	50	?	50	40	5	0	105
% Cover	75	25	4	1	30	100	30	50	50	40
Lake number	30	35	11	11	23	23	16	6	8	20
Relevé number	137	136	138	139	129	36	159	154	151	99
Number of Taxa	6	4	5	4	10	6	6	2	8	7
Juncus acutiflorus			4							
Lemna minor					+					
Polygonum amphibium							+			
Fontinalis antipyretica					+	+				
Nuphar lutea					+					
Potamogeton coloratus									3	

	XVa																XVb						XVc			
Class or Alliance	Littorellion																									
Association or Community	Eriocaulo-Lobelietum																									
Subunit number	XVa																XVb						XVc			
Size of quadrat in m^2	9	1	1	1	4	1	4	4	5	1	100	4	100	1	5	1	24	25	450	12	50	16	45	100	15	50
Water depth in cm	90	10	50	70	50	50	10	40	?	10	150	5	100	50	120	100	200	175	50	180	160	120	50	100	40	55
% Cover	75	60	15	80	80	90	95	90	80	15	90	80	95	5	75	25	70	100	90	55	25	30	5	75	<5	80
Lake number	30	5	1	1	40	1	34	34	32	34	32	34	30	34	40	1	1	34	34	9	5	28	17	17	17	17
Relevé number	26	153	155	156	157	149	148	147	150	152	13	146	12	15	11	165	33	31	16	18	29	17	20	19	21	22
Number of Taxa	3	3	5	6	6	8	10	9	6	4	11	6	9	5	5	6	8	13	11	8	6	7	10	10	13	10
Juncus acutiflorus					+																				N	
Lemna minor				+		2	N	+	2				N							N						
Potamogeton natans									1																	
Fontinalis antipyretica							+										+	+	+		1					
Nuphar lutea				N																						

Potamion

Magno-Potamion

Charetea

Nymphaeion

Charetea

Parvopotamion

Charetea

Com. of Isoetes lacustris

Com. of Najas flexilis and Potamogeton berchtoldii

Com. of Nitella flexilis and Com. of Nitella translucens

Com. of Polygonum amphib. v. aquat.

Com. of Potamogeton natans

Charetum asperae

Com. of Elodea canadensis and Lemna trisulca

Com. of Chara fragilis

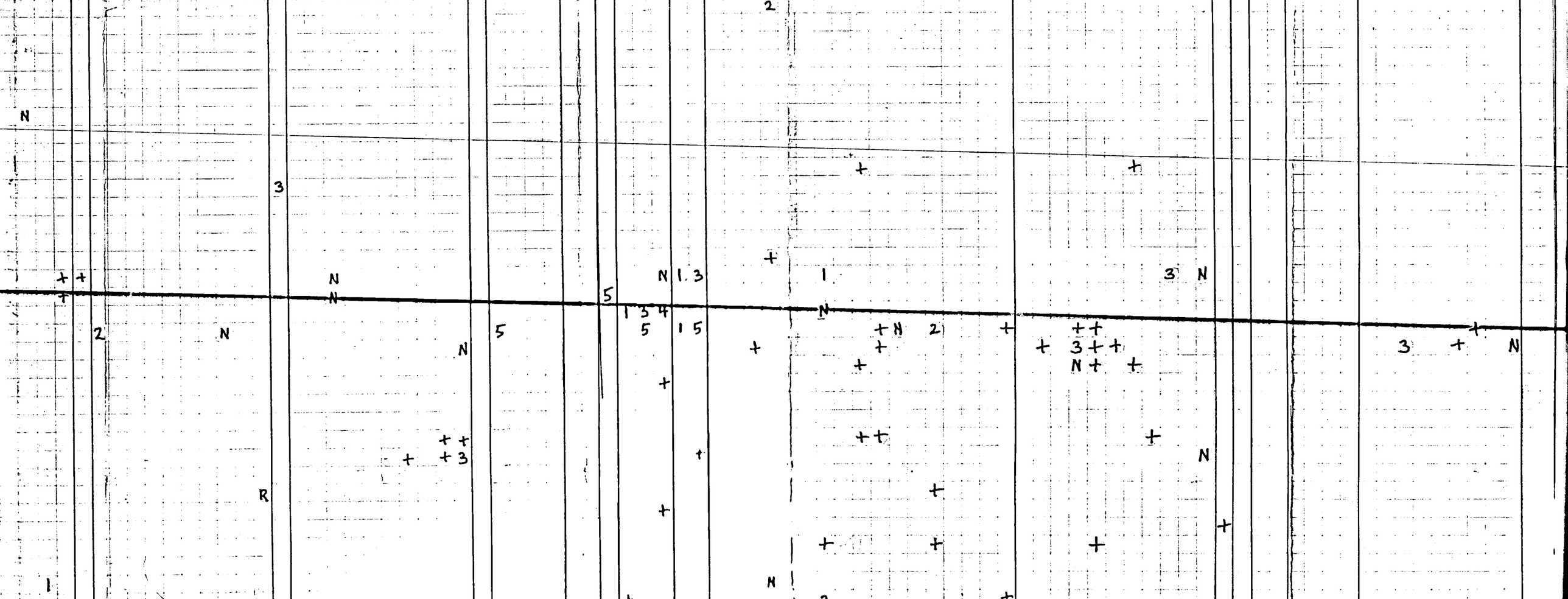
Com. of Chara aculeolata

Com. of Chara contraria

Com. of Chara globularis

XVc XVI XVII XVIII XIX XX XXIa XXIb XXII XXIII XXIV XXV XXVI XXVII XXVIII XXIX XXX XXXI XXXII

XVc	XVI	XVII	XVIII	XIX	XX	XXIa	XXIb	XXII	XXIII	XXIV	XXV	XXVI	XXVII	XXVIII	XXIX	XXX	XXXI	XXXII
00 15 50 50	25	4 16 10 10 5 25 25 10 16 50	25	50 4 20 4 16 100 100 100 25 40	10	12 25 9 6	9 2	4	4 9 3	4 25	6 25 50 4 4 4 25 25 20 20 25 25 25 10 4 4 5	3 25 25 25 8 20 15 4 9 4 100	25	25	4 25	3 25 25 25	16 100 8 25 100 400 100 16 4	100 2
00 40 55 100	150	60 300 60 180 100 40 170 175 250 120	60	85 120 300 400 350 400 250 230 300 170	170	285 175 400 200	150 150	270	45 200 60	40 100	120 260 75 60 170 150 60 75 150 70 120 100 15 100 185 100 30	100 400 225 300 100 400 200 50 140 170 40	10	190	360 200	50 200 100 275	400 315 180 500 220 280 600 500 10	220 50
25 45 80 30	95	30 20 70 80 75 10 30 50 10 20	45	25 90 20 10 70 30 80 100 20 40	60	95 45 30 20	100 25	100	25 100 60	35 100	100 60 40 60 100 85 85 90 100 60 60 30 50 10 70 100 20	50 90 95 60 70 50 100 30 100 100 20	40	5	100 90	100 90 60 60	95 90 100 100 80 97 90 100 10	100 40
17 17 17 17	32	39 40 21 21 6 41 17 5 9 39	41	30 14 32 28 28 9 9 1 21 1	11	31 13 13 13	36 37	15	31 31 3	15 6	31 6 11 26 26 15 7 7 2 2 12 27 27 6 6 26 2	35 35 35 2 4 35 2 24 6 6 23	19	19	6 18	20 29 18 10	20 33 20 10 12 12 33 20 33	33 18
19 21 22 24	14	120 25 34 35 28 27 23 30 32 119	97	38 39 40 42 41 44 43 45 46 73	47	6 48 50 49	1 163	56	102 7 3	127 10	52 55 61 58 60 57 63 64 76 77 85 161 162 53 54 59 62	66 65 67 74 78 68 75 72 69 70 51	80	91	81 82	96 98 37 90	88 92 94 87 83 84 86 89 160	93 95
10 13 10 10	2	3 4 6 7 7 4 5 4 2 5	1	7 7 10 5 7 3 9 7 6 10	5	2 1 1 2	1 3	2	6 2 6	3 6	3 5 9 8 3 5 12 4 13 16 16 6 8 6 3 6 11	5 5 5 8 11 6 8 5 6 2 8	6	4	1 2	4 4 8 7	2 5 7 4 6 7 6 1 6	4 3



Charetea

Charetum asperae

XXV

IV
25 6 25 50 4 4 4 25 25 20 20 25 25 25 10 4 4 5
100 120 260 75 60 170 150 60 75 150 70 120 100 15 100 185 100 30
100 100 60 40 60 100 85 85 90 100 60 60 30 50 10 70 100 20
6 31 6 11 26 26 15 7 7 2 2 12 27 27 6 6 26 2
10 52 55 61 58 60 57 63 64 76 77 85 161 162 53 54 59 62
6 3 5 9 8 3 5 12 4 13 16 16 6 8 6 3 6 11

N
2
+
+
1 3
1
N
1 5
+ N 2 +
+
+
+ +
+
N
2
+
2 +
3 1 1 1
3
1 3

Parvopotamion

Com. of Elodea canadensis and Lemna trisulca

XXVI

3 25 25 25 8 20 15 4 9 4 100
100 400 225 300 100 400 200 50 140 170 40
50 90 95 60 70 50 100 30 100 100 20
35 35 35 2 4 35 2 24 6 6 23
66 65 67 74 78 68 75 72 69 70 51
5 5 5 8 11 6 8 5 6 2 8

+
3 N
+ +
+ 3 + +
N + +
+
N
+
+
1
2

Com. of Potamogeton lucens and Elodea canadensis

25 25
10 190
40 5
19 19
80 91
6 4

Com. of Chara fragilis

4 25
360 200
100 90
6 18
81 82
1 2

Charetea

Com. of Chara connivens

XXIX

3 25 25 25
50 200 100 275
100 90 60 60
20 29 18 10
96 98 37 90
4 4 8 7

Com. of Chara contraria

XXX

16 100 8 25 100 400 100 16 4
400 315 180 500 220 230 600 500 10
95 90 100 100 80 99 90 100 10
20 33 20 10 12 12 33 20 33
88 92 94 87 83 84 86 89 160
2 5 7 4 6 7 6 1 6

3 + N

Com. of Chara aculeolata

XXXI

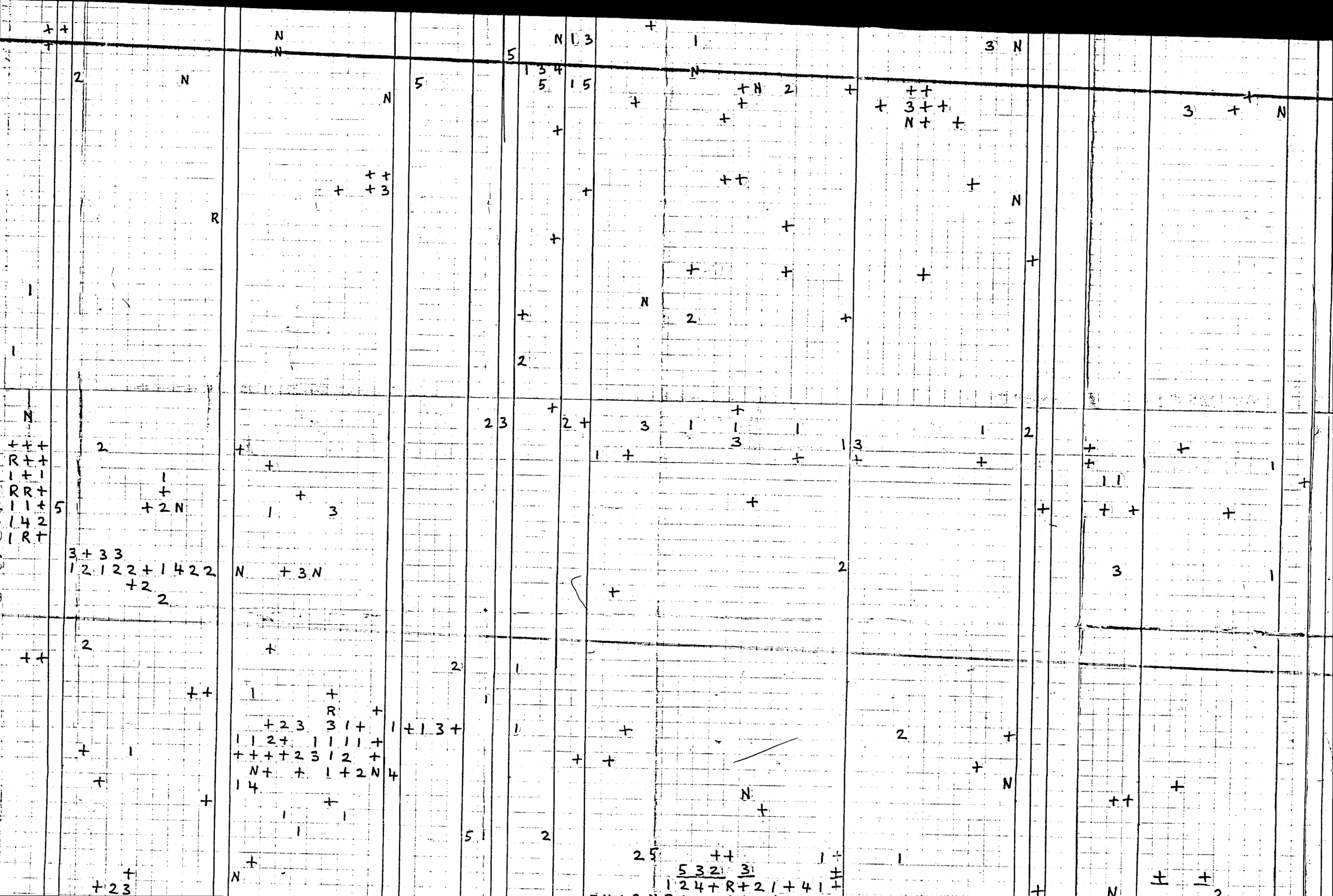
100 2
220 50
100 40
33 18
93 95
4 3

Com. of Chara hispida

XXXII

25
150
95
25
100
1

Cladium mariscus
Berula erecta
Oenanthe fistulosa
Lemna minor
Potamogeton natans
Nymphaea alba
Polygonum amphibium
Fontinalis antipyretica
Nuphar lutea
Oenanthe aquatica
Lysimachia vulgaris
Apium nodiflorum
Senecio aquaticus
Callitriche hermaphroditica
Sparganium emersum
Potamogeton coloratus
Callitriche species
Alisma plantago-aquatica
Scorpidium scorpioides
Hippuris vulgaris
Menyanthes trifoliata
Carex rostrata
Eleocharis palustris
Lythrum salicaria
Juncus articulatus
Ranunculus flammula
Hydrocotyle vulgaris
Agrostis stolonifera
Mentha aquatica
Equisetum fluviatile
Scirpus lacustris
Phragmites australis
Utricularia intermedia
Eleocharis multicaulis
Utricularia vulgaris agg.
Juncus bulbosus f. fluitans
Eriocaulon aquaticum
Lobelia dortmanna
Littorella uniflora
Isoetes lacustris
Elatine hexandra
Scirpus fluitans
Subularia aquatica
Pilularia globulifera
Isoetes setacea
Potamogeton polygonifolius
Apium inundatum
Myriophyllum alterniflorum
Potamogeton alpinus
Nitella flexilis agg.
Najas flexilis
Potamogeton berchtoldii
Potamogeton praelongus
Potamogeton gramineus
Callitriche hamulata
Nitella confervacea
Nitella translucens
Ceratophyllum demersum
Chara aspera
Potamogeton pectinatus

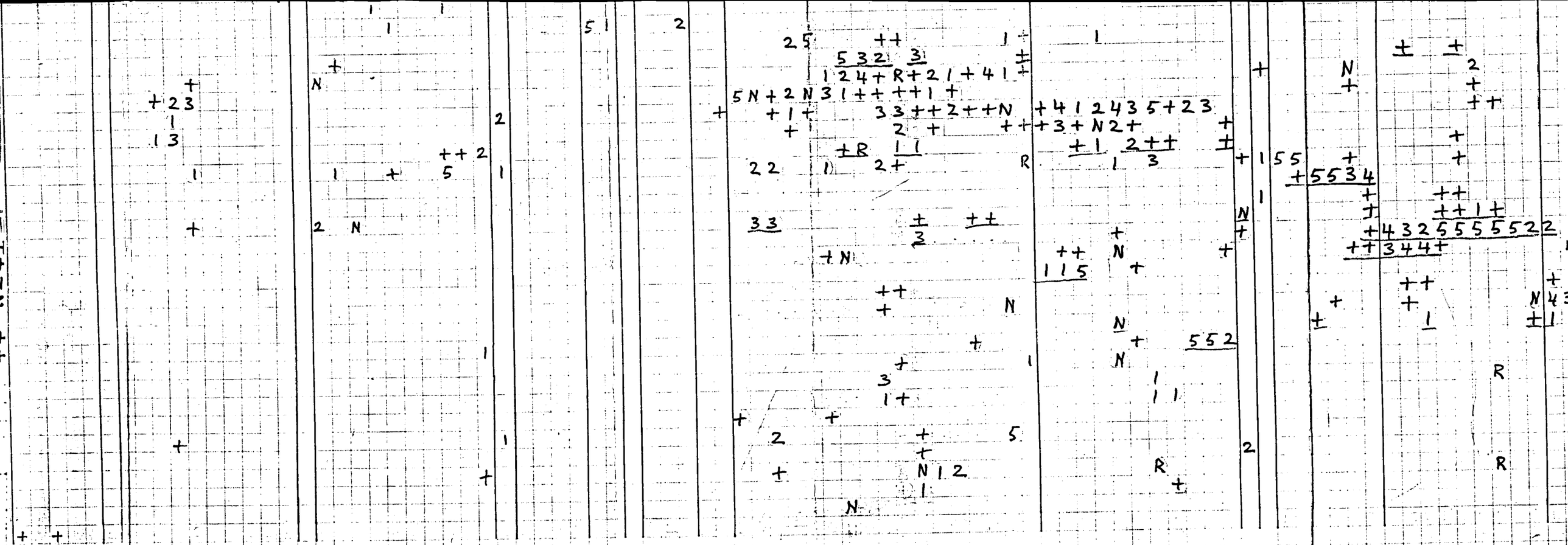


Nitella translucens
Ceratophyllum demersum
Chara aspera 3
Potamogeton pectinatus +
Myriophyllum spicatum (1)
Elodea canadensis 1 +
Lemna trisulca 3 3 + 3 N 5 +5
Potamogeton pusillus +
Chara fragilis N
Chara desmacantha +
Tolypella glomerata
Potamogeton perfoliatus +
Chara contraria
Chara rudis
Stratiotes aloides N
Potamogeton lucens
Chara aculeolata
Chara tomentosa
Potamogeton obtusifolius
Baldellia ranunculoides +
Potamogeton friesii + +
Ranunculus circinatus
Ranunculus trichophyllus + +
Chara delicatula 1 1
Potamogeton filiformis +
Potamogeton crispus
Zannichellia palustris
Chara vulgaris
Calliergon sarmentosum ±

2 N

Recorded once : Species name abundance (relevé number)

Solanum dulcamara 1 (4)
Ranunculus sceleratus + (5)
Typha angustifolia 3 (9)
Gymnocarpa inflata R (21)
Odontoschisma denudatum R (21)
Sphagnum auriculatum v. auriculatum R (21)
Most species + (27)=
Riccardia sinuata + (30)
Ranunculus species 1 (35)
Butomus umbellatus + (62)
Chara baltica 1 (63)
Rorippa amphibia R (85)
Chara hispida 1 (99)
Carex serotina + (101)
Schoenus nigricans + (101)
Callitriche stagnalis + (102)
Calystegia sepium + (104)
Stachys palustris N (104)
Rumex sanguineus N (106)
Phalaris arundinacea N (106)
Epilobium obscurum + (108)
Ranunculus lingua + (108)
Rumex hydrolapathum + (108)
Juncus effusus + (110)
Caltha palustris N (111)
Anagallis tenella 1 (115)
Pedicularis palustris + (115)
Carex panicea + (115)
Carex flava agg. + (115)
Bryum species + (116)
Campylium stellatum + (116)
Prunella vulgaris N (116)
Sparganium minimum 1 (116)
Hemitodon autumnale N (116)
Filipendula ulmaria N (116)



Succisa pratensis N(116)
Rumex acetosa +(117)
Moss species 2(119)
Hypericum elodes +(124)
Equisetum species +(126)
Cicuta virosa N(131)
Epilobium palustre +(140)
Iris pseudacorus N(143)
Veronica catenata +(151)
Rumex conglomeratus +(159)
Chara species +(162)

Scale of Abundance: + N R 1 2 3 4 5
N indicates a plant thought to belong to the community in question, but not actually present in the quadrat (present just outside)

1 ± 1

± ±

+ 4 1 + + N 2

N +

2 + + N + 4 1 2 4 3 5 + 2 3 + +

+ + + 3 + N 2 + +

+ 1 2 + + ± +

R 1 3 + 1 5 5 + +

+ 5 5 3 4

1 + + +

+ + N ± + + 1 +

+ 4 3 2 5 5 5 5 5 2 2

+ + N + + + 3 4 4 + 1 5

1 1 5 +

+ + +

N + + N 4 3

N ± ± 1 ± 1

+ + 5 5 2

1 N

R

1

1 1

5

2

2 R R

+

Cerat dem.
Chara aspera
Pot pect
Myriophl spic.
Elodea
Lemna
Pot berchtoldii/pusilla
Chara fragilis
Chara desmacantha

P perfoliatum
Chara contraria
Chara rudis
Strat aloides

Ch tomentosa
P. obtusifolius

present just outside)

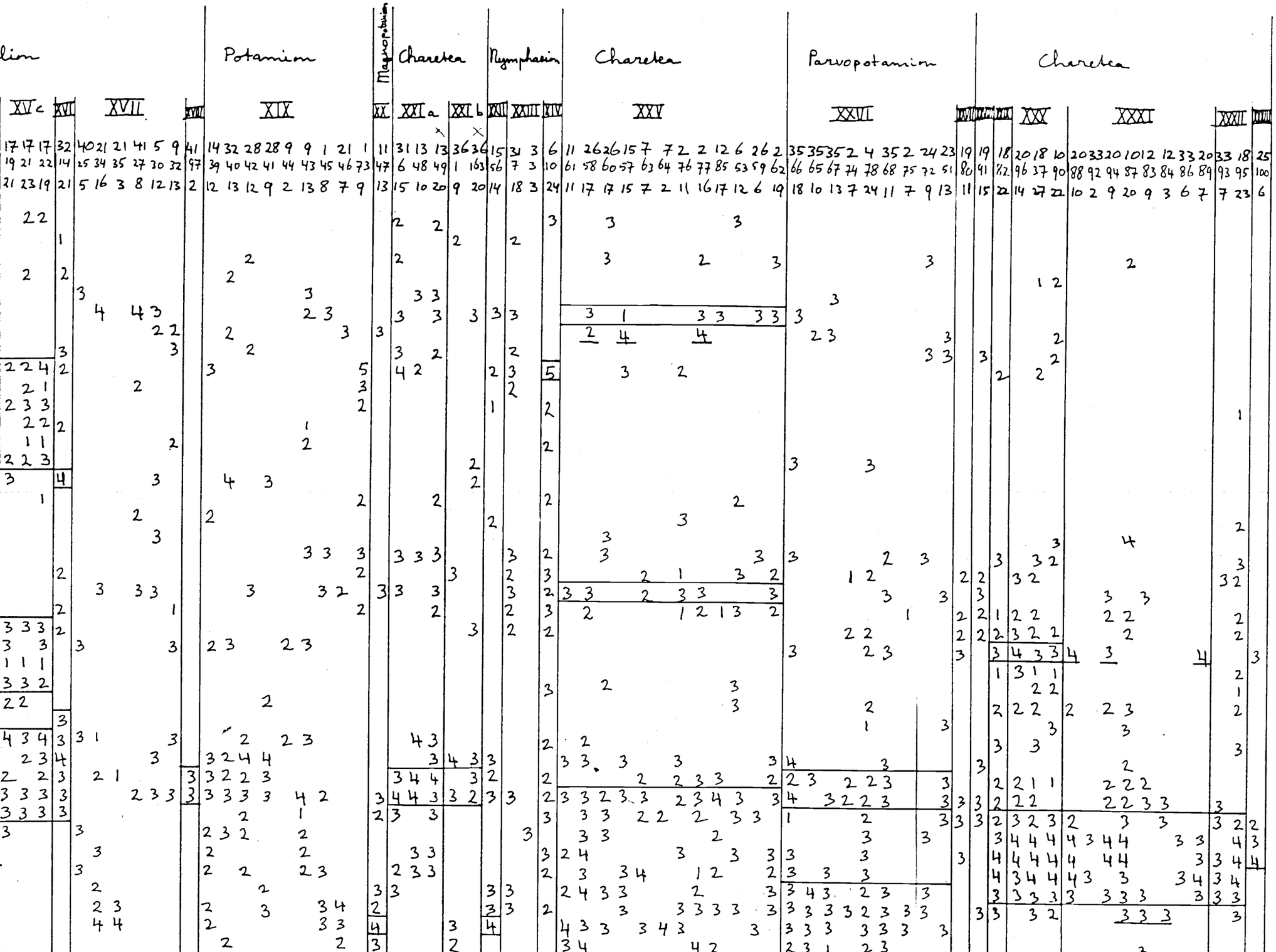
Table 4 Lake Survey – Epipelic, epilithic and epiphytic algae from the relevés of aquatic vegetation.

Subunit number	I	IIa	IIa	VIII	IX	IX	X	X	X	XII	XII	XVa	XVa	XVa	XVa	XVa	XVb	XVb	XVb	XVb	XVb	XVb	XVc	XVc	XVc
Class or Alliance	Ver. ag.	Magnocaricion		Phragmition								Littorellion													
Lake number	4	37	36	6	31	31	31	24	6	23	6	30	32	30	34	40	1	34	34	9	5	28	17	17	17
Relevé number	79	124	110	9	5	2	8	71	4	36	154	26	13	12	15	11	33	31	16	18	29	17	19	21	22
Number of Taxa	2	13	14	24	16	19	13	17	18	10	5	12	26	22	13	22	16	13	23	15	13	20	21	23	19
Staurastrum		3		3		2			3				2			2			2					2	2
Oedogonium punctatostriatum			2		2	3							1						2						
Aphanocapsa >2≤4 μ		3				2							2	3		3		3	3			3			
Stigonema													2	2		3						2		2	
Achnanthes				3												3		2	3	3		3			
Tolypothrix					4	4	3							4			3		1	2	3	3			
Chaetophorales sheet						2	3		3	3		3		3			2		2			3			
Nostoc					3	2	3			3		2		4			2								
Mougeotia		2			3	2	3					3				2							2	2	4
Botryococcus braunii		3	3	2		2							3	3		2					2			2	1
Closterium								1															2	3	3
Pleurotaenium			2										1		2									2	2
Pinnularia																		2						1	1
Zygnema >24 μ	3		3																		2		2	2	3
Hapalosiphon		4											2								2		3		
Ankistrodesmus falcatus		2																2							1
Zygnema >16 ≤24 μ												3	2				2			2					
Phormidium <2 μ					4			3						3	3					2					
Synedra																				3					
Scenedesmus			3	2		2		1		3		2		3				2	2						
Lyngbya <2 μ						3	3		3	3							3								
Pediastrum			2	2	2	1		2	3				1		3	2									
Merismopedia		3											2	1		3							3	3	3
Eunotia													3			3	3		3	3		3	3		3
Dinobryon																							1	1	1
Euastrum				3							3			3	2								3	3	2
Chroococcus			3										2	3	3				3				2	2	
Aphanothece			3									2	3	3	3	2	3		3	2					
Tabellaria		3		3									2	2	2	3			2	4	3	2	4	3	4
Spirogyra ≤96 μ		4	4									3	4		2	2		3	4	2	4	4		2	3
Bulbochaete		4	3		3	2	3			3		3	3	3	2	2		3	2		2	3	2		2
Oedogonium		3	3	2	3	3	3	3	3	3		3	3	3	2	2	2	4	4	4	3	3	3	3	3
Cosmarium		3	3	3	2			1	3		3		3	3					1	2		2	3	3	3
Navicula		3		3		3	3	3						3		3				2			3		
Cymbella				3				2	3							2		2	2						
Gomphonema				3					3	3						3		2			3				
Epithemia					3	3			3					1			2								
Cocconeis				2										1			3	2	2			2			
Gloeotrichia		1				3	3	3	3		4	3					3	2				3			
Coleochaete orbicularis							3														2	3			

Subunit number	XVI	XVII	XVII	XVII	XVII	XVII	XVII	XVIII	XIX	XIX	XIX	XIX	XIX	XIX	XIX	XIX	XIX	XX	XXIa	XXIa	XXIa	XXIb	XXIb
Class or Alliance	Littorellion								Potamion									Magnopotamion	Charetea				
Lake number	32	40	21	21	41	5	9	41	14	32	28	28	9	9	1	21	1	11	31	13	13	36	36
Relevé number	14	25	34	35	27	30	32	97	39	40	42	41	44	43	45	46	73	47	6	48	49	1	163
Number of Taxa	21	5	16	3	8	12	13	2	12	13	12	9	2	13	8	7	9	13	15	10	20	9	20
Staurastrum																			2		2		
Oedogonium punctatostriatum	1																					2	
Aphanocapsa >2≤4 μ											2								2				
Stigonema	2									2													
Achnanthes		3												3						3	3		
Tolypothrix			4		4	3								2	3				3		3		3
Chaetophorales sheet						2	2			2						3		3					
Nostoc	3						3				2								3		2		
Mougeotia	2								3								5		4	2			
Botryococcus braunii					2												3						
Closterium																	2						
Pleurotaenium	2													1									
Pinnularia							2							2									
Zygnema >24 μ																							2
Hapalosiphon	4					3				4		3											2
Ankistrodesmus falcatus																	2				2		
Zygnema >16 ≤24 μ					2				2														
Phormidium <2 μ						3																	
Synedra														3	3		3		3	3	3		
Scenedesmus	2																2					3	
Lyngbya <2 μ			3		3	3					3				3	2		3	3		3		
Pediastrum	2						1										2				2		
Merismopedia	2																						3
Eunotia		3					3		2	3			2	3									
Dinobryon																							
Euastrum																							
Chroococcus												2											
Aphanothece	3																						
Tabellaria	3	3	1				3				2		2	3						4	3		
Spirogyra ≤96 μ	4					3			3	2	4	4									3	4	3
Bulbochaete	3		2	1				3	3	2	2	3							3	4	4		3
Oedogonium	3				2	3	3	3	3	3	3	3		4	2			3	4	4	3	3	2
Cosmarium	3										2			1				2	3		3		
Navicula		3							2	3	2			2									
Cymbella			3						2					2						3	3		
Gomphonema		3							2		2			2	3				2	3	3		
Epithemia			2									2						3	3				
Cocconeis			2	3					2			3			3	4		2					
Gloeotrichia			4	4					2						3	3		4				3	
Coleochaete orbicularis										2						2		3				2	

Subunit number	XXII	XXIII	XXIII	XXIV	XXV	XXV	XXV	XXV	XXV	XXV	XXV	XXV	XXV	XXV	XXV	XXV	XXVI	XXVI	XXVI	XXVI	XXVI	XXVI	XXVI	XXVI	XXVI	
Class or Alliance	Nymphaeion				Charetea												Parvopotamion									
Lake number	15	31	3	6	11	26	26	15	7	7	2	2	12	6	26	2	35	35	35	2	4	35	2	24	23	19
Relevé number	56	7	3	10	61	58	60	57	63	64	76	77	85	53	59	62	66	65	67	74	78	68	75	72	51	80
Number of Taxa	14	18	3	24	11	17	17	15	7	2	11	16	17	12	6	19	18	10	13	7	24	11	7	9	13	11
Staurastrum				3			3							3												
Oedogonium punctatostriatum		2																								
Aphanocapsa >2≤4 μ							3					2				3								3		
Stigonema																										
Achnanthes																			3							
Tolypothrix	3	3				3		1				3	3		3	3	3									
Chaetophorales sheet						2		4				4						2	3						3	
Nostoc		2																						3	3	
Mougeotia	2	3		5				3			2															
Botryococcus braunii		2																								
Closterium	1			2																						
Pleurotaenium																										
Pinnularia				2																						
Zygnema >24 μ																	3				3					
Hapalosiphon																										
Ankistrodesmus falcatus				2										2												
Zygnema >16 ≤24 μ	2										3															
Phormidium <2 μ							3																			
Synedra		3		2			3								3		3					2		3		
Scenedesmus		2		3					2		1			3		2				1	2					2
Lyngbya <2 μ		3		2	3	3			2		3	3				3						3			3	
Pediastrum		2		3		2					1	2	1	3		2							1			2
Merismopedia		2		2																2	2					2
Eunotia																	3				2	3				3
Dinobryon																										
Euastrum				3			2							3												
Chroococcus														3							2					
Aphanothece																					1				3	
Tabellaria				2		2																				
Spirogyra ≤96 μ	3				3	3		3			3					3	4					3				
Bulbochaete	2			2					2		2	3	3			2	2	3		2	2	3			3	
Oedogonium	3	3		2	3	3	2	3	3		2	3	4	3		3	4		3	2	2	3			3	3
Cosmarium				3		3	3		2	2		2		3	3		1				2				3	3
Navicula			3			3	3						2								3			3		
Cymbella				3	2	4					3			3		3	3				3					3
Gomphonema				2		3		3	4			1	2			2	3		3		3					
Epithemia	3	3			2	4	3	3				2				3	3	4	3		2	3		3		
Cocconeis	3	3		2				3			3	3	3	3		3	3	3	3	3	2	3	3	3		
Gloeotrichia	4				4	3	3		3	4	3				3		3	3	3		3	3	3		3	
Coleochaete orbicularis					3	4						4	2				2	3	1		2	3				

plystic algae from the relevés of aquatic vegetation.



Epithemia

Cocconeis

Gloeotrichia

Coleochaete orbicularis

Cladophora

Chamaesiphon

Phormidium >2≤4 μ

Rhoicosphenia

Gyrosigma

Cyclotella

Anabaena

Rivularia

Microcystis

Chaetophora

Melosira

Calothrix

Oscillatoria >2≤4 μ

Oscillatoria >8≤12 μ

Amphora

Surirella

Coelosphaerium

Coleochaete irregularis

Aphanochaete

Lyngbya >2≤4 μ

Hormidium

Ulothrix

Aphanocapsa >1≤2 μ

Coleochaete scutata

Denticula

Chamaesiphon minutus

Oscillatoria splendida

Fragillaria crotonensis

Phormidium >4≤8 μ

Pyrrophyta

Nitzschia

Homoeothrix

Chaetosphaeridium

Gemmella

Gloeocapsa

Schizothrix

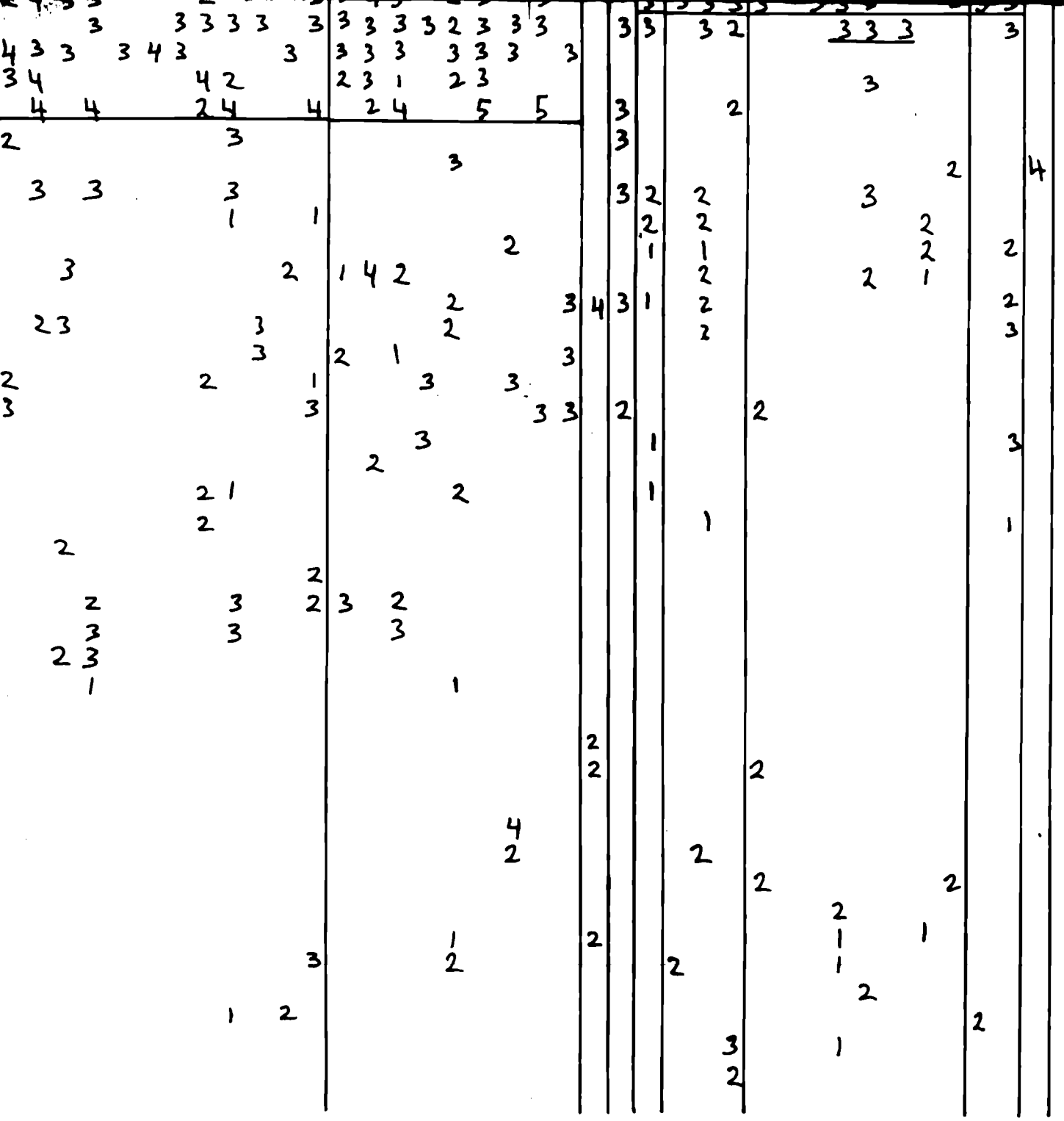
Hyalotheca

Abundance scale
1 = rare (seen up to 3 times).
2 = occasional
3 = common
4 = dominant species
5 = bloom

Recorded less than four times: Taxon abundance (relevé number)

Amphipleura pellucida 2(9)
Aphanocapsa >4≤6 μ 4(3)
Asterionella 2(10)
Asterococcus species 2(14)
Asterococcus superbus 3(39)
Arthrodesmus 2(22), 2(124)
Batrachospermum 3(9), 3(19), 3(51)
Binuclearia 2(12), 2(90)
Ceratium hirundinella 3(5), 2(6), 2(7)
Ceratoneis arcus 2(17)
Chaetophora incrassata 4(34), 3(71)
Characium 1(13)
Chrysophyta 2(57), 2(91)
Coelastrum 2(16); 3(110)
Coleochaete soluta 3(65)
Derepyxis 2(14), 2(40), 2(126)
Diatoma 2 10), 3(95)
Dictyosphaerium 3(27), 3(34), 3(72)
Didymosphenia geminata 3(40)
Eucocconeis 2(90)
Euglena 1(10)
Fischerella major 2(1), 4(110)
Fragillaria species 3(66), 3(95)
Frustulia rhomboides (not var. saxonica) 2(16), 2(43)
Gloeothece 3(15)
Gomphosphaeria 2(167)
Gonatozygon 3(49)
Hildenbrandia rivularis 4(34)
Hydrococcus cetasii 2(17)
Lyngbya >6≤10 μ 2(67)
Micrasterias 2(13), 1(21), 1(33)
Microspora <6 μ 2(11)
Microspora >12≤16 μ 2(13), 2(14)
Monostyla 2(10)
Netrium 1(19), 3(21)
Oocystis 3(60)
Oscillatoria >4≤6 μ 3(106), 2(169)
Oscillatoria >12≤16 μ 2(50)

Oscilla
Pandori
Peridin
Phormid
Pseudan
Schizoc
Scytone
Sphaero
Spirogy
Spirul
Spondyl
Stauro
Stepha
Stigeo
Surire
Tetmem
Xanthi
Xenoco



...116)
... 3(95)
...var. saxonica) 2(16), 2(43)

...34)

... 1(33)

..., 2(14)

...), 2(169)
...6)

Oscillatoria >16μ 2(167)
Pandorina 1(65)
Peridinium 1(21)
Phormidium mucicola 3(3)
Pseudanabaena catanata 3(167)
Schizochlamys gelatinosa 3(51)
Scytonema 3(27), 4(124)
Sphaerozosma 2(13)
Spirogyra >60μ 4(76), 4(79)
Spirulina species 2(20)
Spondylosium 2(12), 2(13), 2(16)
Staurodesmus 2(11), 1(19), 2(21)
Stephanodiscus 2(71)
Stichococcus 1(21), 2(30)
Stigeoclonium 4(61)
Surirella spiralis 2(33)
Tetmemorus 1(19), 1(21)
Xanthidium 3(10)
Xenococcus 3(4)