Code NG6221 Name CILL CHRIOSD Grid Ref NG612205

Date 20:06:89 Surveyors SB/IB/CD/KS Estate DAFS (NORMAN STODDART)

Area 18.0 ha Altitude 30 m Catchment 719 ha Geology LI

Water Colour C/LESS Clarity CLEAR Boat used ✓ Secchi disk depth CLEAR TO BOTTOM ~ 4M

Loch type 3? Edge type(s) 943, 592, 583

Status SSSI Access 1 Road/houses Present (underline)

Land Use % Open Water 3 Semi-natural 94 Forestry 3 Agriculture —

Sea distance 2.6 Km.

Substrate types (underline main type tick others present)

- ✓ Bedrock
- ✓ Boulders (>30 cm max diam.)
- ✓ Stones (5-30cm diam.)
- Gravel (4-50mm diam.)
- ✓ Sand (0.1 - 4mm diam.)
- Silt (< 0.1mm diam.)
- ✓ Organic mud
- Peat
- ✓ Artificial embankment (Road)

Uses and Damage

USE		AREA AFFECTED	DAMAGE
Water abstraction	.....	.....	.....
Sewage inflow	.....	.....	.....
Agricultural pollution	.....	.....	.....
Edge trampling	✓	Signs of cattle + sheep - trampling of marsh areas	
Adjacent forestry	✓	See map	.....
Fishing (Edge/boat)	✓	Fishing may be developed	.....
	.....	Dam at outlet	.....
	.....	Manmade	.....

Fauna

Mammals

Birds
common Sandpiper
Mallard + 8 juvs
Common gull + 1 juv.
Lapwing

Reptiles
Amphibians
Toad

Dragonflies and other Invertebrates
Ishnura elegans
Sympetrum nigrescens

Fish

manmade for salmon fishing Turn of century C1900

Species diversity

Edge: 21
Open Water 27
Total 40

Detailed water analysis ✓ (3)

Conductivity 200
pH 7.36

Rare Species

National: 3 Pco1 Sub Ese

Rare in River Purification Board: 2 Rsal plu

Other

Site name CILL CHRIOSD Gr NG612205 No NG6221

EMERGENT AND EDGE SPECIES:

Map code		DAFOR
Ags	Agrostis stolonifera	.....
Ber*	Berula erecta	.....
Cap	Caltha palustris	O
Cxl	Carex lasiocarpa	LF
Cxli	Carex limosa	O
Cxro	Carex rostrata	LA
Cxv	Carex vesicaria	.....
Elm	Eleocharis multicaulis	LF
Elp	Eleocharis palustris	F
Elq	Eleocharis quinqueflora	....
Era	Eriophorum angustifolium	O
Gld	Glyceria declinata	.....
Glf	Glyceria fluitans	.....
Hlp	Hippuris vulgaris	.....
Hyd	Hydrocotyle vulgaris	.....
Ip	Iris pseudacorus	LA
Ja	Juncus articulatus	LF
Jb	Juncus bulbosus	O
Jc	Juncus conglomeratus	.....
Je	Juncus effusus	O
Lit	Littorella uniflora	LD
Lyc*	Lycopodiella inundata	.....
Ma	Mentha aquatica	.....
Mt	Menyanthes trifoliata	LF
Mig	Mimulus guttatus	.....
Mil	Mimulus luteus	.....
Mim	Mimulus moschatus	.....
Myl	Myosotis laxa	.....
Msc	Myosotis scorpiodes	.....
Nas	Nasturtium officinale	.....
Oc	Oenantha crocata	.....
Pha	Phalaris arundinaceae	.....
Phr*	Phragmites australis	LD/A
Pop	Potentilla palustris	O
Rfl	Ranunculus flammula	O–LF

Map code		DAFOR
Sl	Scirpus lacustris	LD
St*	Scirpus tabernae-montanae	.....
Sper	Sparganium erectum	.....
Spem	Sparganium emersum	LF 1patch
Ta	Typha angustifolia	.....
Vb	Veronica beccabunga	.....
Vs	Veronica scutellata	.....
Eqf	Equisetum fluviatile	O
Eqp	Equisetum palustre	LF
	Species total	
	Other edge species	
Cxd	Carex demissa	O
Cxe	Carex echinata	LF
Cxp	Carex panicea	O
Cxpa	Carex paniculata	.....
Gp	Galium palustre	.....
Gr	Geum rivale	.....
Sa	Senecio aquaticus	R
Tp	Triglochin palustris	LF inflow end
Vp	Viola palustris	.....
	Carex curta	O
Oxn	Carex nigra	F

Cardamine pratensis R

* species requiring special protection within the HRPB area (Palmer & Newbold 1977)
** species occurring in less than 100 10 x 10 km squares in Great Britain

Site name ..... Gr ..... No .....

SUBMERGED AND FLOATING SPECIES

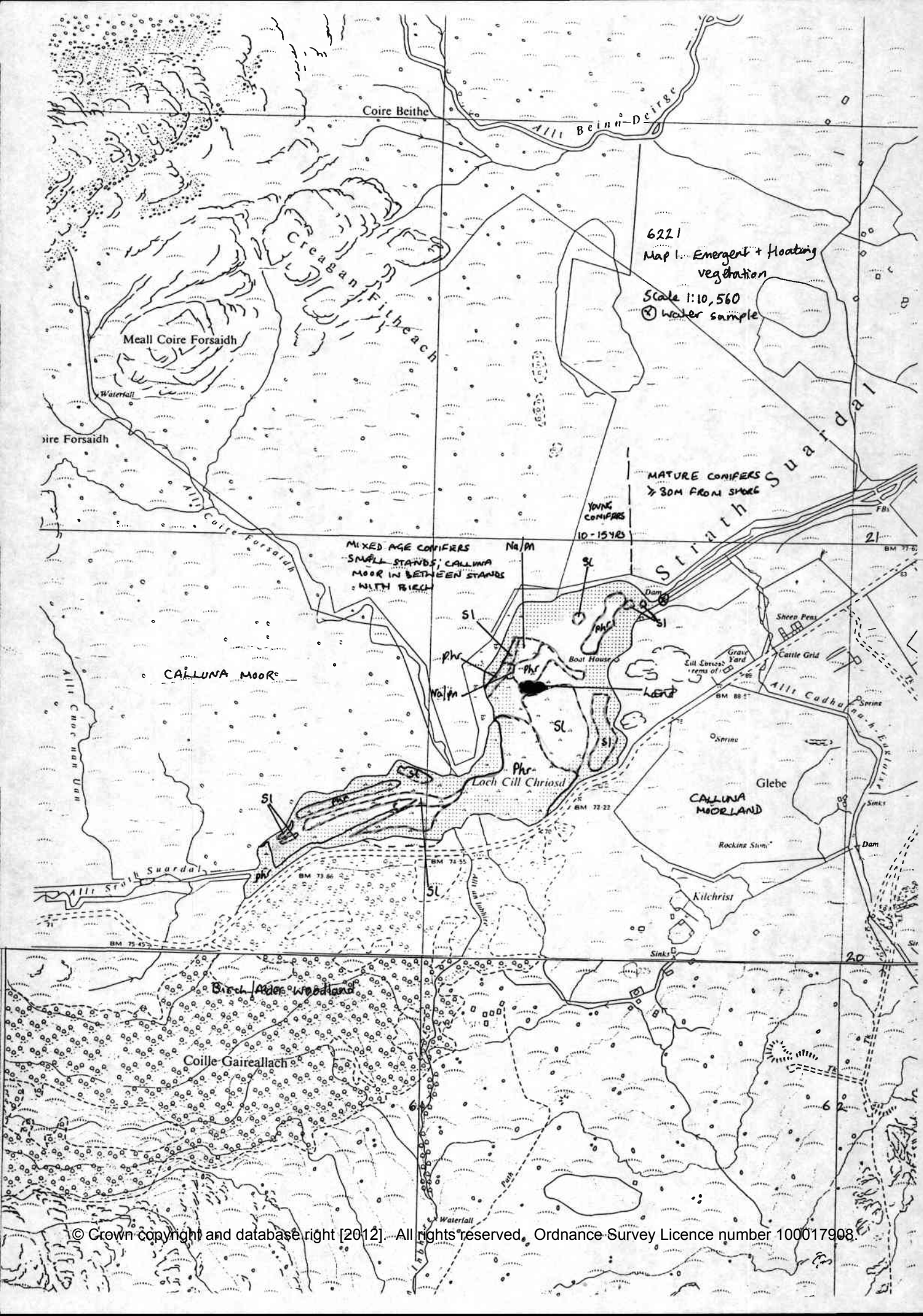
Map code		DAFOR
All*	Alisma lanceolatum	.....
Api*	Apium inundatum	.....
Bar*	Baldellia ranunculoides	F
Cah	Callitriche hamulata	.....
Cher**	Callitriche hermaphroditica	.....
Cas	Callitriche stagnalis	.....
Ela**	Elatine hexandra	.....
Ese**	Eriocaulon septangulare	R
Fon	Fontinalis antipyretica	LD
Hip	Hippuris vulgaris	.....
Hyd	Hydrocotyle vulgaris	.....
Isl	Isoetes lacustris	R (B)
Iss**	Isoetes setacea	.....
Ish	Isoetes hybrid?	.....
Jb	Juncus bulbosus var fluitans	LD
Lm*	Lemna minor	.....
Lit	Littorella uniflora	LD
Lob	Lobelia dortmanna	O
Mal	Myriophyllum alterniflorum	LF
Msp	Myriophyllum spicatum	.....
Na	Nymphaea alba	LA
Nul*	Nuphar lutea	.....
Pil**	Pilularia globulifera	.....
Pam	Polygonum amphibium	.....
Ph	Polygonum hydropiper	.....
Pal	Potamogeton alpinus	.....
Pbe	Potamogeton berchtoldii	....
Pcr*	Potamogeton crispus	.....
Pcol**	Potamogeton coloratus	LF
Pfil**	Potamogeton filiformis	.....
Pfr**	Potamogeton friesii	.....
Pgr	Potamogeton graminus	.....

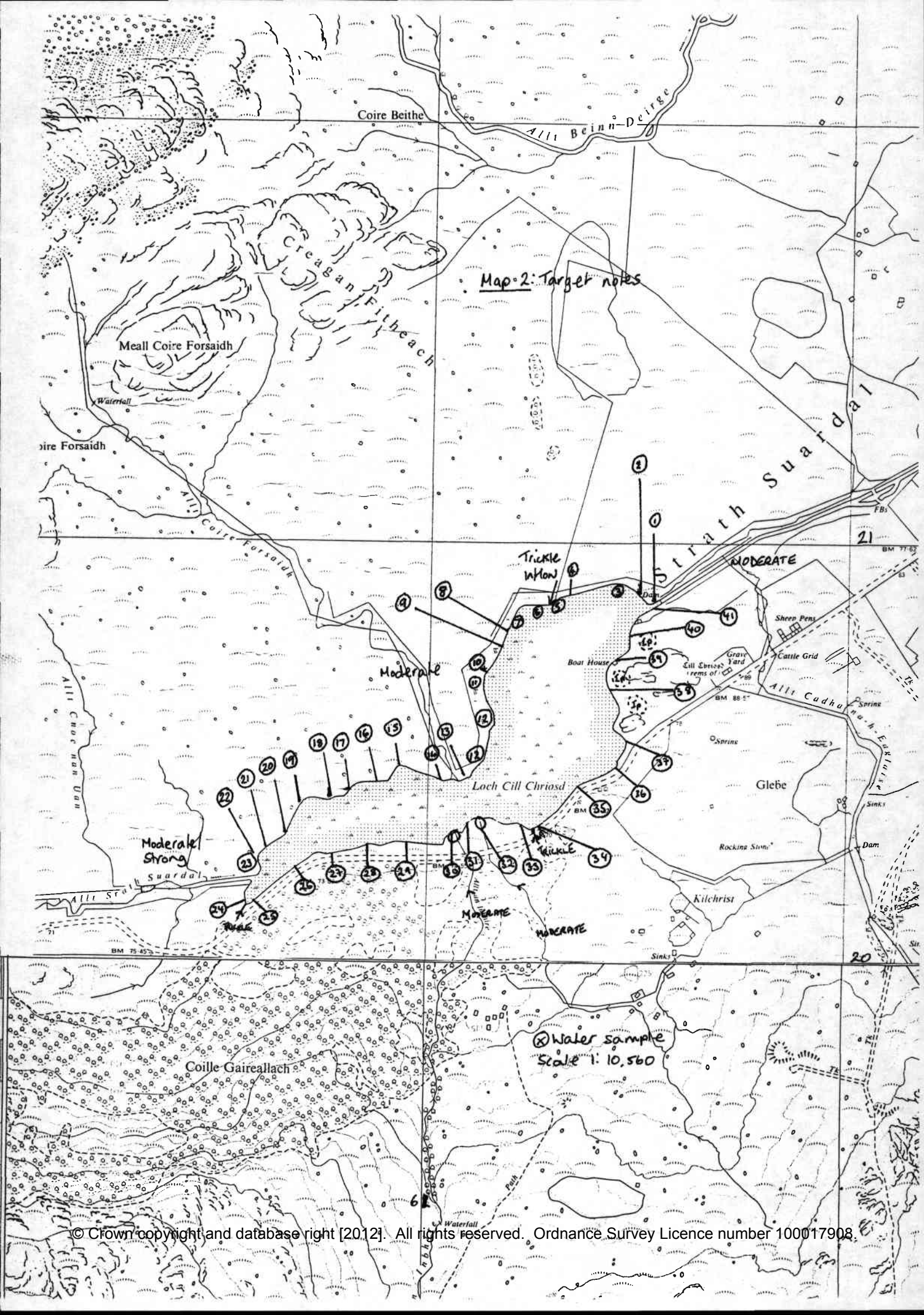
Map code		DAFOR
Plu*	Potamogeton lucens	F
Pn	Potamogeton natans	LA
Pxn	Potamogeton x nitens	.....
Pper	Potamogeton perfoliatus	....
Ppol	Potamogeton polygonifolius	LF INFLOW END
Ppra**	Potamogeton praelangus	.....
Rhe	Ranunculus hederaceous	.....
Rtr*	Ranunculus trichophyllus	...
Rma*	Ruppia maritima	.....
Rsp**	Ruppia spiralis	.....
Sf	Scirpus fluitans	.....
Spa	Sparganium angustifolium	LF 1patch
Spmi	Sparganium minimum	F (B)
Spem	Sparganium emersum	.....
Sub**	Subularia aquatica	R
Uti	Utricularia intermedia	.....
Utm	Utricularia minor	LF
Utu	Utricularia vulgaris australis	LF .....
Uts	Utricularia ochroleuca	LF
Zpa*	Zannichellia palustris	.....
Cha	Chara sp	LA
Nit	Nitella sp	R
	Species total	
	Rx2 Potamogeton x 2?2i?	F/LA
	.....	

U. minor + U. ochroleuca identification confirmed by P. Taylor

No U. vulgaris specimen identified.

* species requiring special protection within the HRPB area (Palmer & Newbold 1977)
** species occurring in less than 100 10 x 10 km squares in Great Britain





TARGET NOTES. L. CILL CHRIOSD. NG612205. 6221

1. Outflow bay. Loch has been dammed to raise water level by approximately 0.5m.

   Species present: Bar, (LF), Cxro, Mal. Some Nostock algal balls. Cxro + Bar occur at waters edge with Cxp + Cxd further back grading into grassland and Calluna moor.

2. Sl, Bar, Lit, Cap, Ja, Eqf, Pn. Some Lob, Jb occur in more open water.

   Water level down to expose ǂ 10m of shore with Lit, Eqp + Ja.

3. Wave washed stones and gravel. Little vegetation other than in central corner of bay where Cha, Lit, Mal occur with Ja + Rfl high on the shore.

4. Little vegetation, some Fon.

5. Flush and trickle inflow. Spp present; (Fon, Cha), Cap, Jb, Cxro, Lit, Rfl. Platanthera chlorantha.

6. Elp, Lit + Ja on edge, no plants in water.

7. Phr, Lit, Rfl, Ja, Mal, Elp, (Lob).

8. Sl, Phr.

9. Bar, Lob, Sl, Pn, Phr, Na, Rfl, Elp.

10. Na/Pn near shore. Phr, Bar, Lit, Lob, Jb. Ese, Cha, Sub.

11. Area of willow carr/swamp. At waters edge; Na, Cxl, Elp, Cxro, Phr, Jb. Phr dominant. Other species present; Rfl, Cxp, Bar, Sa, Cxn, Mt. Pedicularis palustris, Cx curta, Uti type + Jb (terrestrial). Sphagnum, Po p, Cxe, Bar, Filipendula ulmaria, Eqf, Cardamine pratense, Galium sp, Cap, Ppol, Spa, Je, Epilobium palustre.

12. Phr, Rfl, Ppol, Jb, Uti type, Cxn, Pop, Je (Mt), Cxro, (Era) (Eqf)

13. Phr, Era, Jb, Ja, Cxn, Cxro (Eqf)

    By moderate inflow open water with Sl grading into Phr in deeper water.
    On shore: Elp, Sl, Cxro, (Mal), Lit, Cap, Rfl, Cxd, Cha, Ja.

14. Plu, Spa, with Sl/Pn, Phr beyond.
    Close to shore, Mal, Rfl, Elp, Cap, Cxd, Lit, Jb, Bar, Cha.

15. Sl LD with Pn LA/LD.
    Lit D, Mal, Rfl, Ja, Cha, Jb, Bar, Elm.

16. Wave washed. Sl offshore. Bar, Ja, Rfl, Mal, Elp at edge.

17. Lit, Mal, Elp.

18. Lit, Mal, Elp, Sl, Ja, Rfl.

19. Less vegetation. Phr offshore (Ja, Rfl, Lit).

20. Lit, Elp, Sl.

21. Phr Little Sl at edge.
Na amongst Phr with Pot coloratus. Utv, Lit on shore. Cxro and Cxl.

22. High up on shore Cxro/Cxl, Era, Mt, Cxd, (Phr), Jb (terrestrial), Uti type, Cxp. Spem occurs by inflow.
Phr, Cxro, Jb, Pot, Cap, Angelica.

23. Flush with Pcol.

24. Cxro, Cxn, Mt, Phr, Rfl, Era, Jb.

25. Phr, Lit, Ppol, Jb, Cxro, Cxn, Ja, Bar, Tp.

26. Mal, Bar, Lit, Elp, Ja, Eqp.

27. Elp, Ja, Bar, Cxro, Phr, Ppol, Eqp, Cxe, Era, Pn, Na.

28. Phr, Cxe, Cxn, Na, Era, Bar, Cardâmine pratensis.

29. Cxro, Era, Pn, Phr.

30. STREAM MOUTH: Eqf, Cxro, Mt, Pn, Phr, Spmi, Jb, Ja, Cxe, Elm, Era.

31. Cxro, Phr, Jb, Mt, Cxn, Ja, Bar, Era.

32. STREAM MOUTH: Eqf, Cxro, Mt, Pn, Phr, Spmi, Jb, Cxe, Ja, Elm, Era.

33. Cxe, Cxn, Rfl, Cxli, Cxro, Ja, Mt, Cap, Era, Phr.

34. Cap, Cxn, Phr, Elp, C. pratensis, Cxro.

35. Sl, Pn, Phr, Rfl, Elp.

36. Lit, Sl, Ja, Cap, Rfl, Elp.

37. Ip, Cap, Rfl, Lit, Cxd, Fon.

38. Lit, Rfl, Fon, Cap.

39. Mal, Lob.

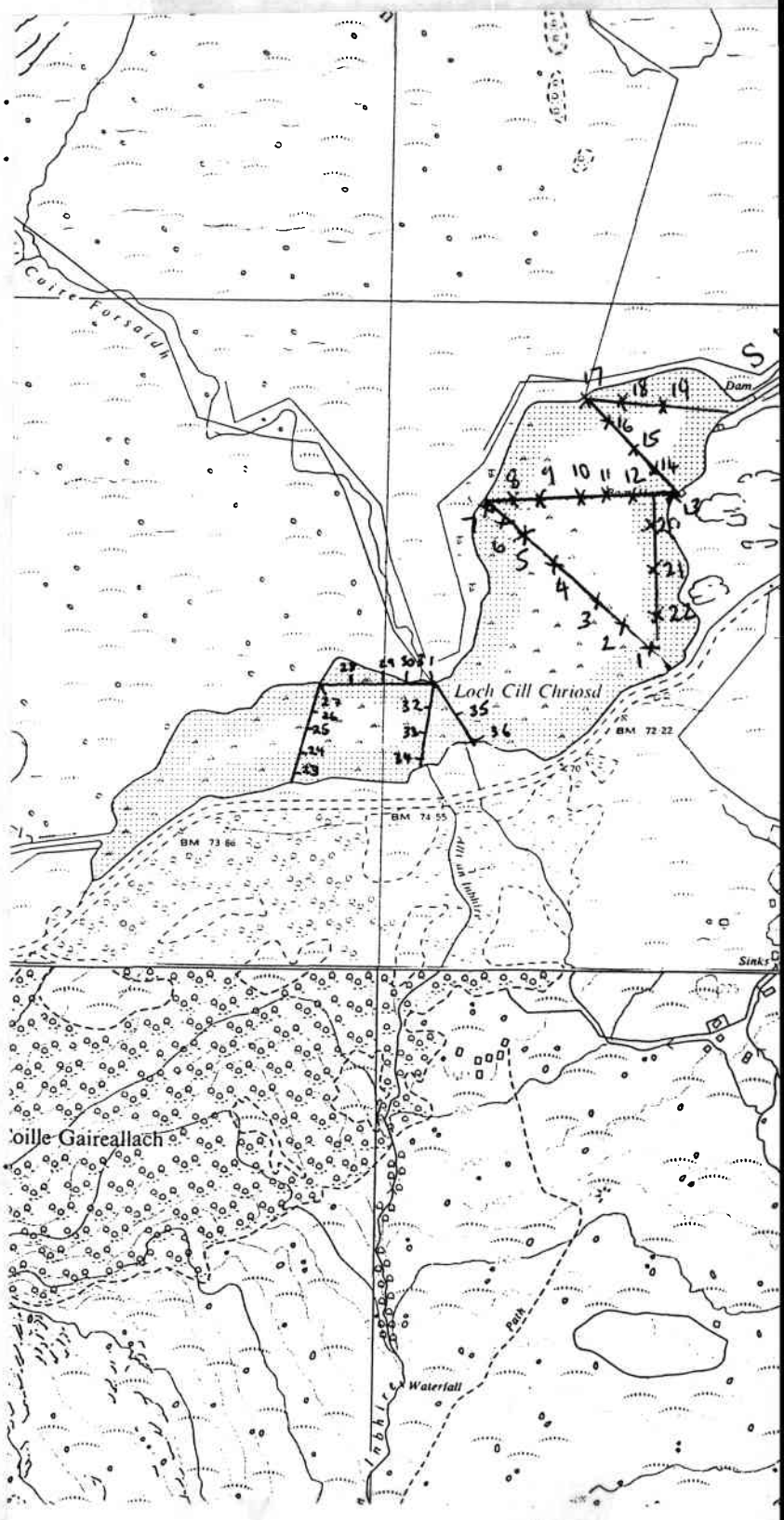
40. Je.

41. Mal, Sl, Pn, Jb Ja. Cxn.

BOAT TRANSECTS. L. CILL CHRIOSD. NG612205. 6221.

Map 3.

1. Fon, Plu, Sl, Spmi.
2. Jb, Pn, Plu, Sl (Fon).
3. Jb, Pn, Na, Sl, Plu, (Fon).
4. Jb, Sl, Pn, Plu, Fon, Spmi.
5. Pn, Sl, Plu.
6. Jb, Fon, Phr, (Plu), (Pn).
7. Jb, Fon, Phr, Spmi, (Plu).
8. Phr, Spmi, Cha, (Plu).
9. Cha, Phr, Plu, Pn, Spmi.
10. Jb, (Cha), (Plu).
11. Fon, Sl, Jb, Pn, Plu.
12. Plu, Fon, Cha, Jb, Pn.
13. Cha, Lit, Pxz, Mal.
14. Lit.
15. Lit, (Lob), Cha, Pxz, Fon.
16. Cha, Fon, Jb.
17. Cha.
18. Cha, Pgr, Sl, Nit.
19. Ut, Cha, Pxz.
20. Plu, Cha, Ut, Fon.
21. Plu, Cha, Fon, Pn, Sl.
22. Pxn, Cha, Fon, Pn, Sl, Plu.
23. Cha, Sl, Phr.
24. Cha, Pn, Fon, Eqf, Sl.
25. Uts, Fon, Cha.
26. Pn, Uts.
27. Uts, Pn, Sl.



28. Pn, Sl, Plu, Uts.

29. Pn, Sl, Plu, Uts.

30. Pn, Sl.

31. Pn, Sl.

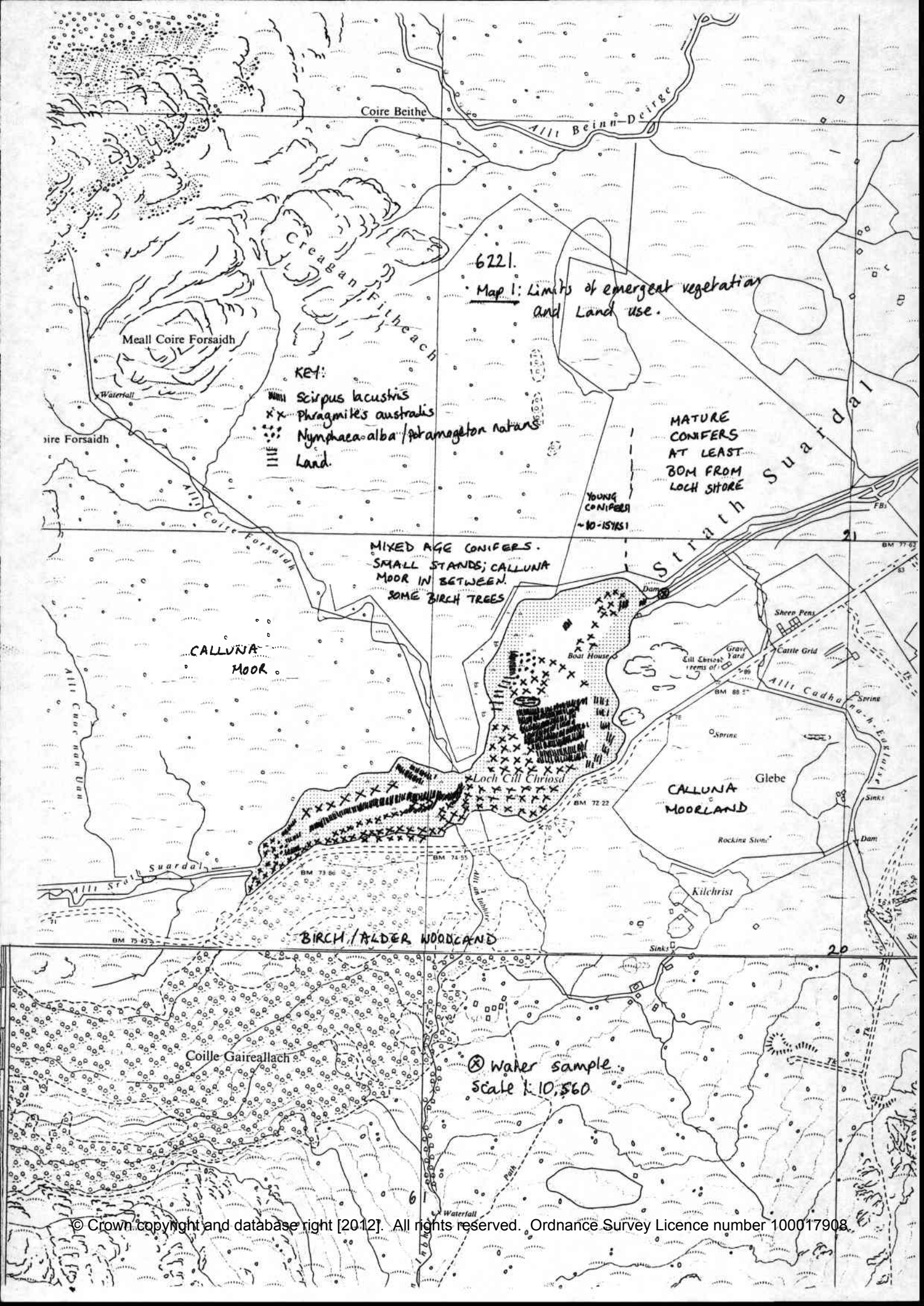
32. Pn, Plu, Sl.

33. Na, Phr, Sl, Pn, Plu.

34. Uts, Plu.

35. Na, Phr, Pn, Plu, Jb, Uts.

36. Eqf, Na, Sl.



WATER CHEMISTRY

SKYE AND LOCHALSH - 1989

Loch Name Cill Chriosd..... Grid Reference NG612205..... Code NG6221

Determinant	Loch Sample	Total Sample (n) mean	Total Sample (n) Standard deviation	Total Sample (n) Range
Ammonia Nitrogen (as N)	ND	0.053	0.058	ND*-0.312
Nitrate (as N)	0·004	0.039	0.065	ND*-0.233
Total Alkalinity (as $CaCO_3$)	58·80	11.40	14.34	ND*-58.80
Chloride (as Cl)	26·0	19.6	11.8	5.0-57.0
Ortho Phosphate (as P)	ND	0.0004	0.0001	ND*-0.0050
Total Phosphorus (PO_4 + P)	0·004	0.004	0.004	ND*-0.024
Aluminium (as Al)	ND	0.022	0.023	ND*-0.086
Calcium (as Ca)	21·33	3.59	3.18	0.42-21.33
Magnesium (as Mg)	5·01	1.70	1.30	0.02-5.98
Potassium (as K)	0·49	0.39	0.27	0.09-1.20
Silicate (as SiO_2)	0·238	1.473	1.975	0.055-11.477

For all determinants n = 56 except Magnesium n = 50.

ND* - Not Detectable (taken to be zero in calculating total sample means)

Results in $mg\ l^{-1}$