1996 LOCH SURVEY: STRATHCLYDE* AREA

Code NX4913 Name LOCH DOON Grid Ref NX496970

3093·1 NX49
3093·2 NX40
3093·3 NX59

Date 15th August 1996 Surveyors SSD/NSW/WD Estate SCOTTISH POWER

Area 767·8 ha Altitude 210 m Catchment ..... ha Geology 14/12/49

Water colour VERY PALE BROWN Clarity CLEAR Boat used NO Secchi disc depth 1 m

Loch type 3 Edge type(s) S9a, S19a, S19b, S22a, S11, M23a, M23b, S10a (NVC codes)

Status LOCH DOON SSSI Access 1 Road/houses present (underline)

Land use % Open water ..... Semi-natural ..... Forestry ..... Agriculture .....

Substrate types (underline main type, tick others present)

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

USES AND DAMAGE

Use	Observations
Adjacent forestry	Extensive Forestry plantations in catchment - adjoin loch esp. along E. side
Agricultural pollution	
Edge trampling	Massive 'edge' not a problem
Fishing (edge/boat)	Angling club c20 boats. Bank fishing
Litter	Peripheral informal caravan sites
Shooting	
Water abstraction	Hydro-electric - supply system.
	Heavy recreational pressure - W. side.

SURROUNDING LAND USE:

Commercial Forestry.
Rough grazing.
Informal caravan parks. Car parks. Buildings

FAUNA

Mammals | Birds | Reptiles Amphibians | Fish | Dragonflies & other invertebrates

Coenagrion hastulatum

SPECIES DIVERSITY

Edge 29
Open water 11
Total 38

RARE SPECIES

Scarce (*) .....
Red Data Book (**) .....

WATER CHEMISTRY

Alkalinity 0·02 meq/l
Conductivity 43 µS/cm
p.H. 5·6

1996 STRATHCLYDE AREA LOCH SURVEY: AQUATIC PLANT SPECIES LIST

Code NX4913 Site name LOCH DOON Grid ref NX496970 Date 15/NOV/1996

EMERGENT & EDGE SPECIES

Map code	Species	DAFOR	10km² dist' NX 49	NX 59	NX 50
Ac	*Acorus calamus*				
Ags	*Agrostis stolonifera*	A	✓	✓	✓
Al	*Alisma lanceolatum*				
Apa	*Alisma plantago-aquatica*				
Apn	*Apium nodiflorum*				
Bar	*Baldellia ranunculoides*				
Ber	*Berula erecta*				
Bom	*Bolboschoenus maritimus*				
Bu	*Butomus umbellatus*				
Cal	*Calla palustris*				
Cap	*Caltha palustris*	R		✓	
Cxat	*Carex acuta*				
Cxaf	*Carex acutiformis*				
Cxa	*Carex aquatilis*				
Cxl	*Carex lasiocarpa*				
Cxli	*Carex limosa*				
Cxn	*Carex nigra*	F	✓	✓	✓
Cxpc	*Carex pseudocyperus*				
Cxri	*Carex riparia*				
Cxro	*Carex rostrata*	O/LA	✓	✓	✓
Cxv	*Carex vesicaria*	R/LF	✓		
Ca	*Catabrosa aquatica*				
Civ*	*Cicuta virosa*				
Clm	*Cladium mariscus*				
Des*	*Deschampsia setacea*				
Ela	*Eleocharis acicularis*				
Elm	*Eleocharis multicaulis*				
Elp	*Eleocharis palustris*	F	✓	✓	✓
Elq	*Eleocharis quinqueflora*				
Elu	*Eleocharis uniglumis*				
Eqf	*Equisetum fluviatile*	O/LF	✓	✓	✓
Eqp	*Equisetum palustre*	R/LF	✓		
Era	*Eriophorum angustifolium*	LF	✓	✓	
Gld	*Glyceria declinata*				
Glf	*Glyceria fluitans*	O/LD	✓	✓	
Glm	*Glyceria maxima*				
Gln	*Glyceria notata*				
Hip	*Hippuris vulgaris*	O/LF	✓	✓	
Hyd	*Hydrocotyle vulgaris*	F	✓	✓	✓
Ip	*Iris pseudacorus*				
Iv	*Iris versicolor*				
Jac	*Juncus acutiflorus*	F/LA	✓	✓	✓
Jaa*	*Juncus alpinoarticulatus*				
Ja	*Juncus articulatus*	F	✓	✓	✓
Jb	*Juncus bulbosus*	A	✓	✓	✓
Jc	*Juncus conglomeratus*	R/LF	✓		
Je	*Juncus effusus*	F	✓	✓	✓
Lit	*Littorella uniflora*	F/LD	✓	✓	✓
Lyc*	*Lycopodiella inundata*				
Lyt*	*Lysimachia thyrsiflora*				
Lyp	*Lythrum portula*	F	✓	✓	✓
Lys	*Lythrum salicaria*				
Ma	*Mentha aquatica*				
Mt	*Menyanthes trifoliata*				
Mg	*Mimulus guttatus*				
Ml	*Mimulus luteus*				
Mm	*Mimulus moschatus*				

Map code	Species	DAFOR	NX 49	NX 59	NX 50
Mi	*Mimulus* sp.				
Mon	*Montia fontana*	LF	✓	✓	✓
Myl	*Myosotis laxa*	R		✓	
Msc	*Myosotis scorpioides*				
Msec	*Myosotis secunda*	R			✓
Oc	*Oenanthe crocata*				
Of	*Oenanthe fistulosa*				
Pam	*Persicaria amphibia*				
Ph	*Persicaria hydropiper*	F/LA	✓	✓	✓
Pha	*Phalaris arundinacea*				
Phr	*Phragmites australis*				
Pop	*Potentilla palustris*	O/LF	✓	✓	✓
Rfl	*Ranunculus flammula*	F	✓	✓	✓
Rh	*Ranunculus hederaceus*	R		✓	
Rl	*Ranunculus lingua*				
Ro	*Ranunculus omiophyllus*	R		✓	
Rs	*Ranunculus sceleratus*				
Roa	*Rorippa amphibia*				
Roi	*Rorippa islandica*				
Rm	*Rorippa microphylla*				
Rna	*Rorippa nasturtium-aquaticum*				
Rxa**	*Rumex aquaticus*				
Rxh	*Rumex hydrolapathum*				
Sal	*Sagittaria latifolia*				
Sl	*Schoenoplectus lacustris*				
St	*Schoenoplectus tabernaemontani*				
Spem	*Sparganium emersum*				
Sper	*Sparganium erectum*				
Ta	*Typha angustifolia*				
Tl	*Typha latifolia*				
Vaa	*Veronica anagallis-aquatica*				
Vb	*Veronica beccabunga*				
Vc	*Veronica catenata*				
Vs	*Veronica scutellata*	F	✓	✓	✓
	Persicaria minor	F	✓	✓	✓

SPECIES TOTAL 29

Other edge species

Cxd	*Carex viridula* ssp. *oedocarpa* (=*C.demissa*)	F	✓	✓	✓
Cxe	*Carex echinata* O		✓	✓	✓
Cxel	*Carex elata*				
Cxp	*Carex panicea* F		✓	✓	
Cxpa	*Carex paniculata*				
Gp	*Galium palustre* O		✓	✓	✓
Sa	*Senecio aquaticus*				
Tp	*Triglochin palustre* F		✓	✓	✓
Vp	*Viola palustris* O/LF		✓	✓	✓

Note: * = Scarce plants (occurring in 16-100 10x10km squares in Great Britain) known to occur in the Scottish Environment Agency West Region.

** = Introduced species (occurring in 1-15 10x10km squares in Great Britain) known to occur in the Scottish Environment Agency West Region.

All species names follow those in Stace 1991.

OLL6/96

1996 STRATHCLYDE AREA LOCH SURVEY: AQUATIC PLANT SPECIES LIST

Code NX4913 Site name LOCH DOON Grid ref NX496970 Date 15AUG1996

SUBMERGED & FLOATING SPECIES

10km² dist^n: NX49 NX59 NX40

Map code	Species	DAFOR	NX49	NX59	NX40
Api	*Apium inundatum*				
Af	*Azolla filiculoides*				
Bar	*Baldellia ranunculoides*				
Cab	*Callitriche brutia*				
Cah	*Callitriche hamulata*	A	✓	✓	✓
Cher	*Callitriche hermaphroditica*				
Cao	*Callitriche obtusangula*				
Cpla	*Callitriche platycarpa*				
Cas	*Callitriche stagnalis*	F	✓	✓	✓
Ca	*Callitriche* sp.				
Ced	*Ceratophyllum demersum*				
Crh	*Crassula helmsii*				
Ela*	*Elatine hexandra*				
Elh*	*Elatine hydropiper*				
Ef	*Eleogiton fluitans*				
Ec	*Elodea canadensis*				
En	*Elodea nuttallii*				
Fon	*Fontinalis antipyretica*	O/F	✓	✓	
Grd	*Groenlandia densa*				
Hip	*Hippuris vulgaris*	R	✓	✓	
Hop	*Hottonia palustris*				
Hmr	*Hydrocharis morsus-ranae*				
Hyd	*Hydrocotyle vulgaris*				
Ise*	*Isoetes echinospora*				
Isl	*Isoetes lacustris*	R	✓		
Lam	*Lagarosiphon major*				
Lg	*Lemna gibba*				
Lm	*Lemna minor*				
Lmi	*Lemna minuta*				
Lt	*Lemna trisulca*				
Lit	*Littorella uniflora*	O	✓	✓	✓
Lob	*Lobelia dortmanna*				
Lun	*Luronium natans*				
Lyp	*Lythrum portula*				
Mal	*Myriophyllum alterniflorum*	F/LD	✓		
Maq	*Myriophyllum aquaticum*				
Msp	*Myriophyllum spicatum*				
Nf**	*Najas flexilis*				
Nua	*Nuphar advena*				
Nul	*Nuphar lutea*				
Nup*	*Nuphar pumila*				
Na	*Nymphaea alba*				
Nyp	*Nymphoides peltata*				
Pam	*Persicaria amphibia*				
Pil*	*Pilularia globulifera*				
Pal	*Potamogeton alpinus*				
Pbe	*Potamogeton berchtoldii*				
Pcol*	*Potamogeton coloratus*				
Pxco	*Potamogeton* x *cooperi*				
Pcr	*Potamogeton crispus*				
Pfil*	*Potamogeton filiformis*				
Pfr	*Potamogeton friesii*				
Pgr	*Potamogeton gramineus*				
Pxl	*Potamogeton* x *lintonii*				
Plu	*Potamogeton lucens*				
Pn	*Potamogeton natans*				
Pxn	*Potamogeton* x *nitens*				
Pob	*Potamogeton obtusifolius*				
Ppec	*Potamogeton pectinatus*				
Pper	*Potamogeton perfoliatus*				
Ppol	*Potamogeton polygonifolius*	O/F	✓	✓	✓
Ppra	*Potamogeton praelongus*				
Ppu	*Potamogeton pusillus*				
Pxsp	*Potamogeton* x *sparganifolius*				
Pt*	*Potamogeton* trichoides				
Pxz	*Potamogeton* x *zizii*				
Ra	*Ranunculus aquatilis*				
Rb	*Ranunculus baudotii*				
Rc	*Ranunculus circinatus*				
Rf	*Ranunculus fluitans*				
Rp	*Ranunculus peltatus*				
Rpse	*Ranunculus penicillatus* ssp. *pseudofluitans*				
Rtr	*Ranunculus trichophyllus*				
Ruc*	*Ruppia cirrhosa*				
Rum	*Ruppia maritima*				
Spa	*Sparganium angustifolium*	O/F	✓	✓	
Spem	*Sparganium emersum*				
Spn	*Sparganium natans*	R/F	✓	✓	
Sp	*Sparganium* sp.				
Spp	*Spirodela polyrhiza*				
Sub	*Subularia aquatica*				
Uti	*Utricularia intermedia*				
Um	*Utricularia minor*				
Uo	*Utricularia ochroleuca*				
Us	*Utricularia stygia*				
Uva	*Utricularia vulgaris/australis* agg.				
Ut	*Utricularia* sp.				
Zan	*Zannichellia palustris*				
	Juncus bulbosus	A/LD	✓	✓	✓
Cha	*Chara* sp.				
Nit	*Nitella* sp.				

SPECIES TOTAL 11

Other species not included in total:

Sphag	*Sphagnum* sp.	LA

Specimens:

Chara sp. .....

Nitella sp. .....

Potamogeton sp. .....

Utricularia sp. .....

Note: * = Scarce plants (occurring in 16-100 10x10km squares in Great Britain) known to occur in the Scottish Environment Agency West Region.

** = Rare plants (occurring in 2-15 10x10km squares in Great Britain) known to occur in the Scottish Environment Agency West Region.

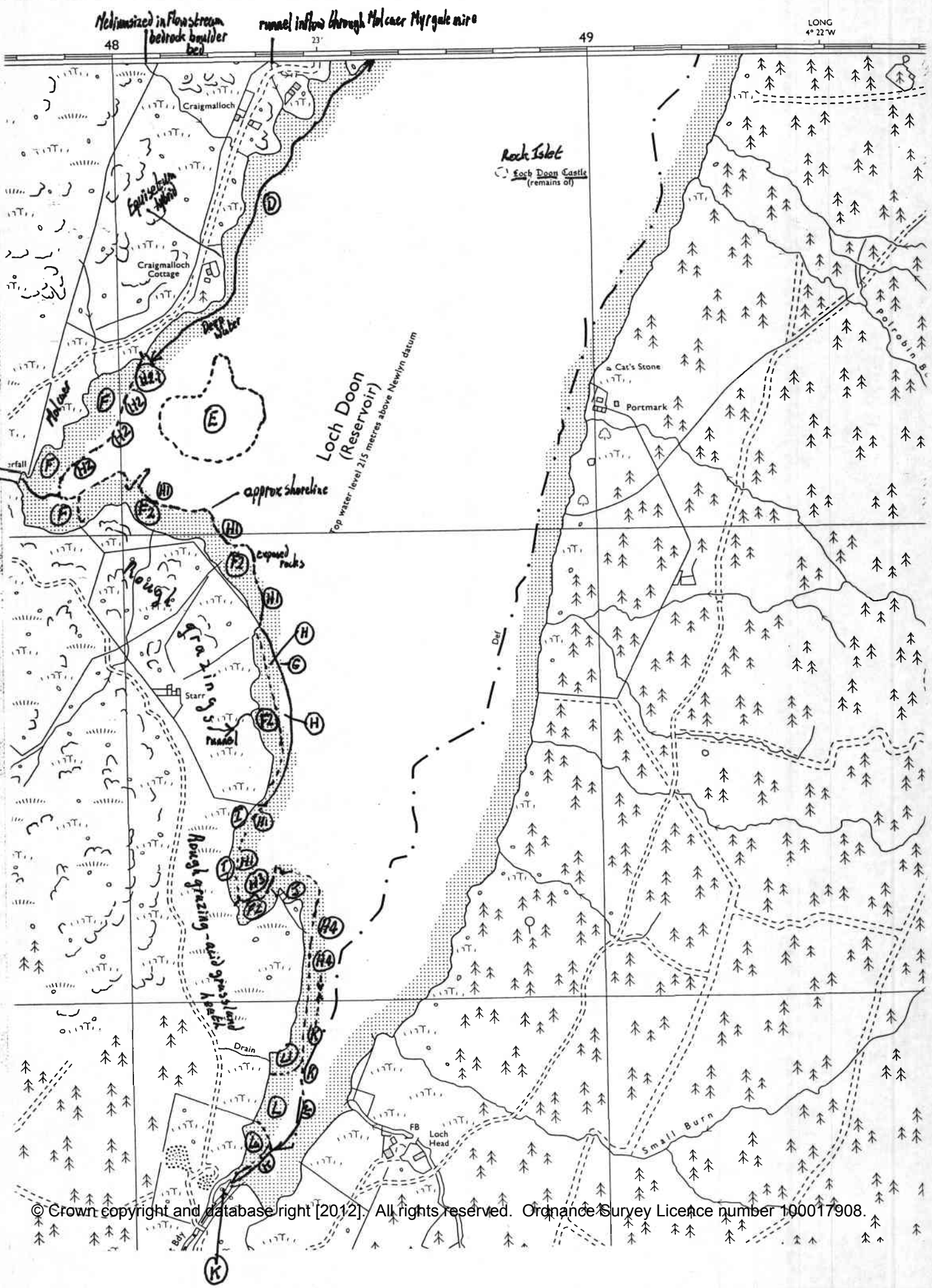
All species names follow those in Stace 1991.

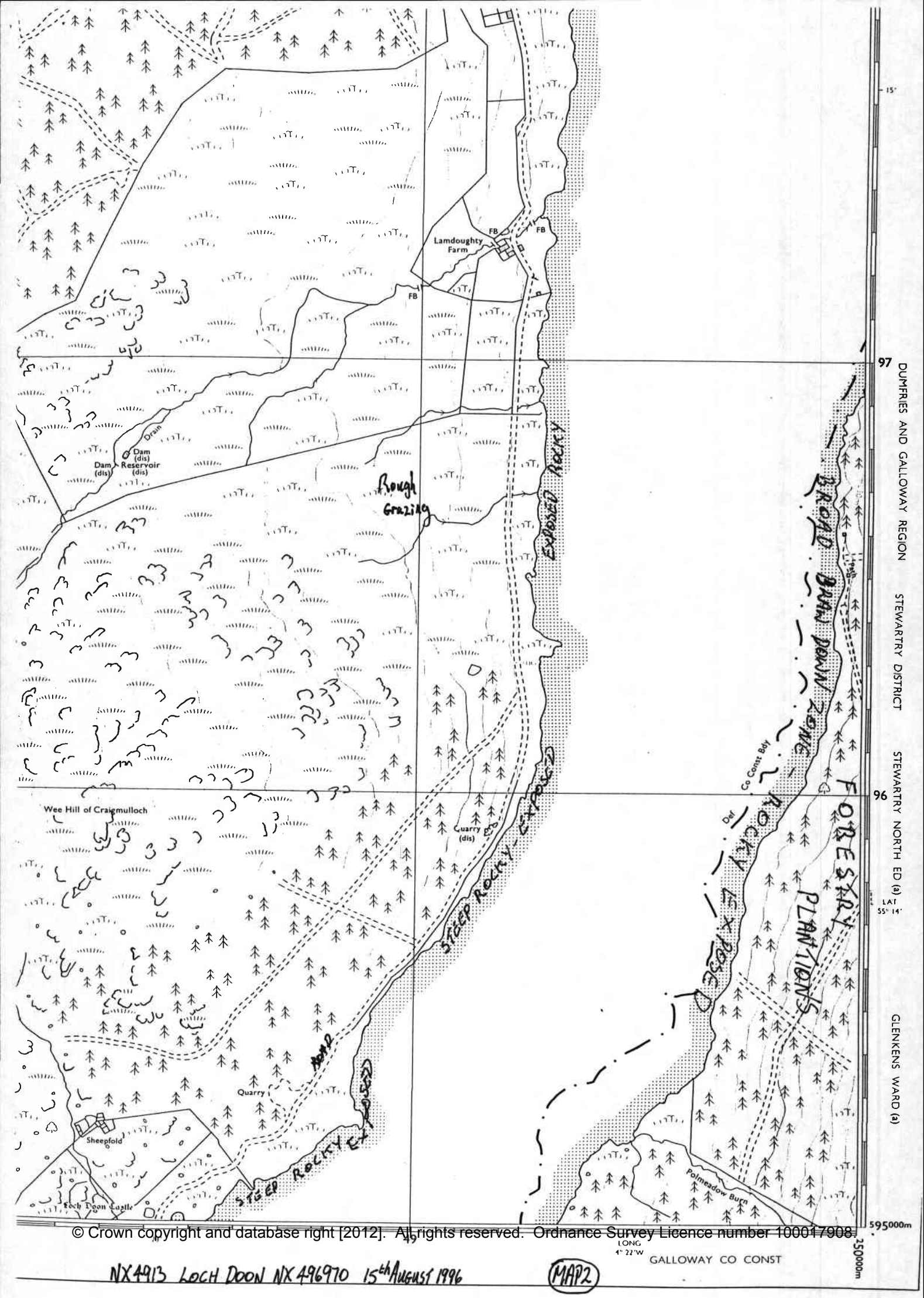
MAP(1)

VEY

NX4913 Loch Doon NX496970 15th August 1996

SHEET N





NX4913 LOCH DOON NX 496970 15th AUGUST 1996

MAP2

ORDNANCE SURVEY

NX49/3 LOCH DOON NX496970 15th AUGUST 1996

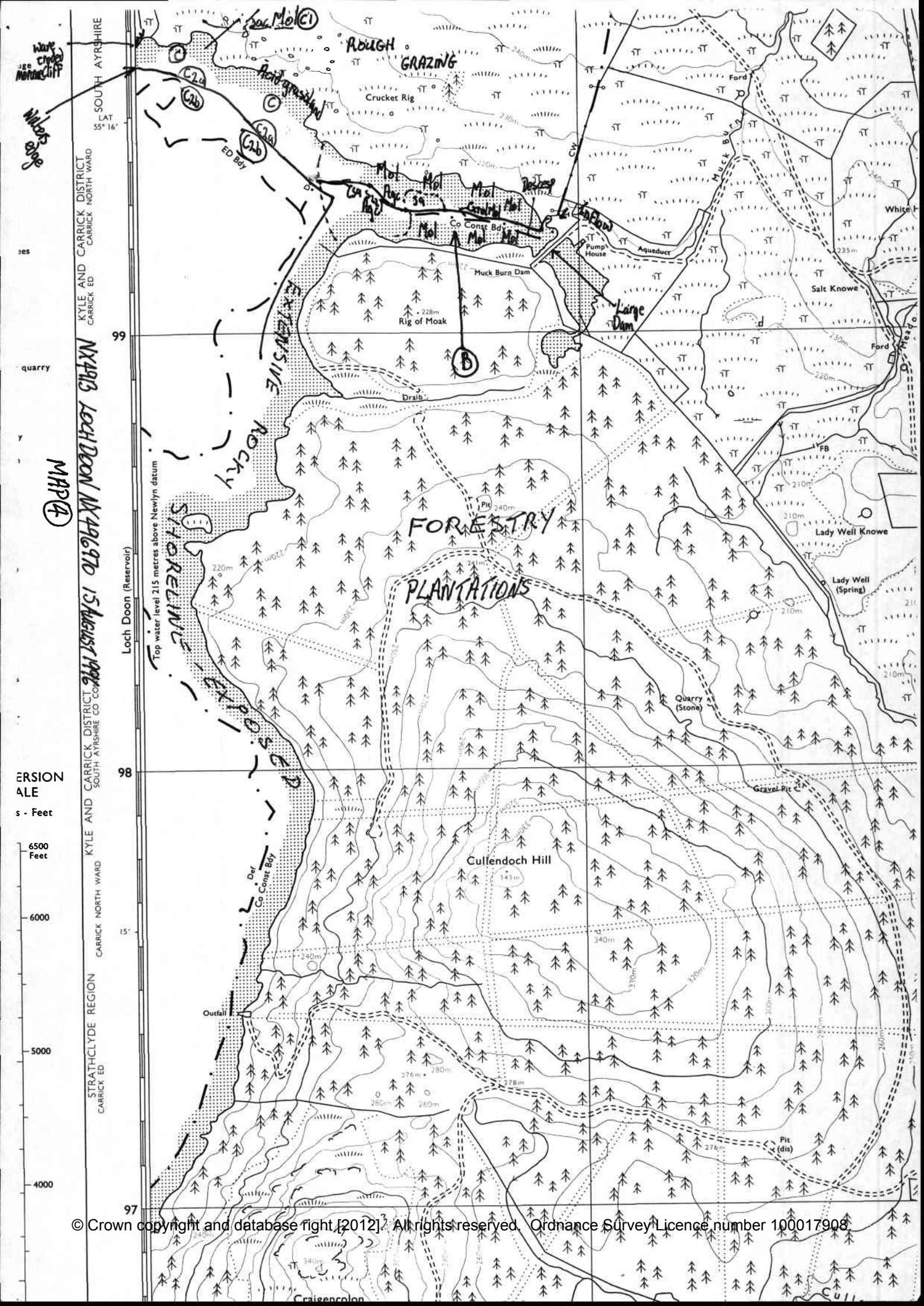
MAP 3

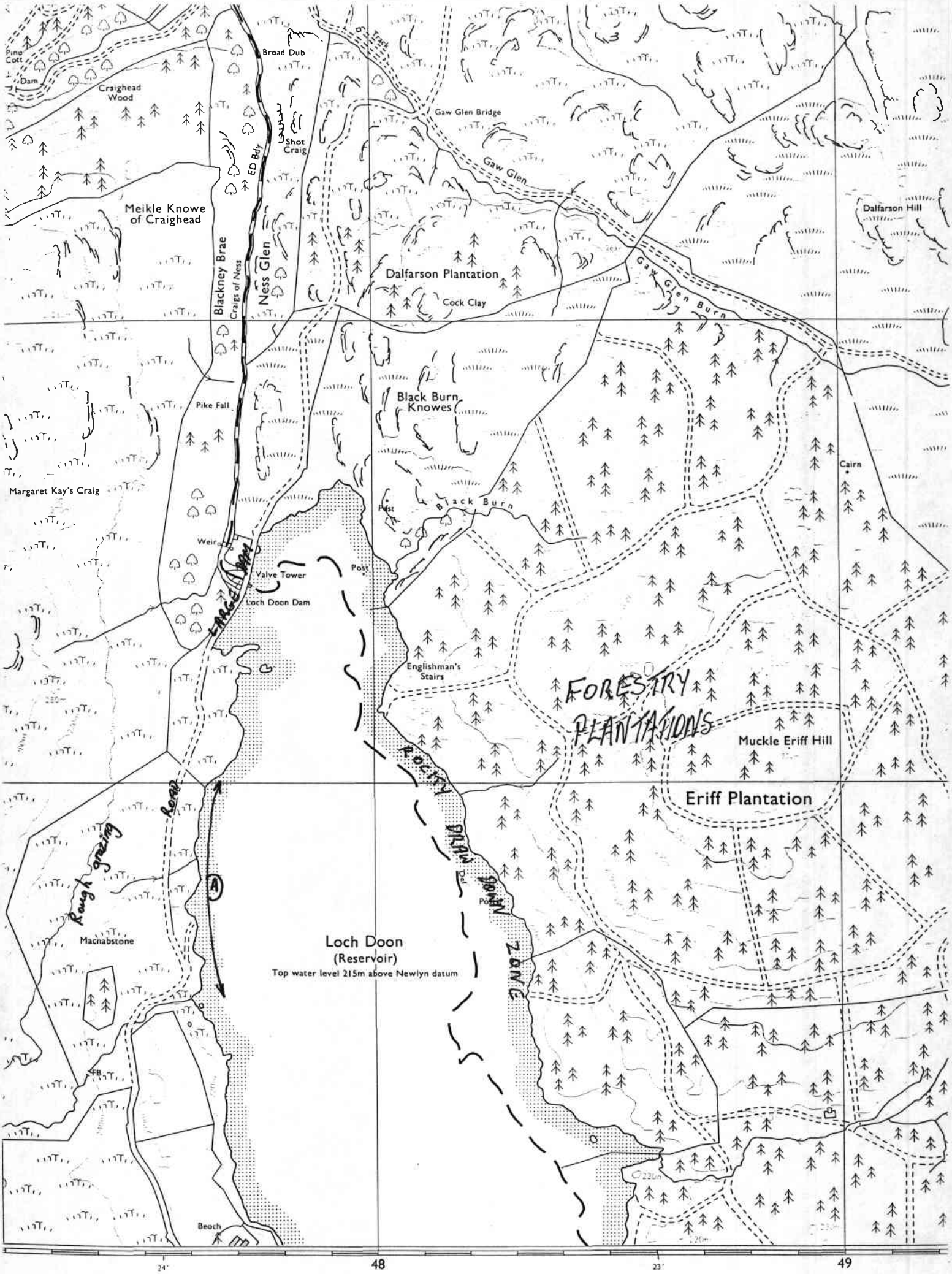
SHEET NX 49 NE

CUMNOCK AND DOON VALLEY DISTRICT

NEW CUMNOCK AND DOON VALLEY ED

Sheepfold
EXPOSED ROCKY SHORE
FORESTRY PLANTATIONS
Isle
Eriff
Eriff Plantation
DALMELLINGTON WARD
eroding moraine wave-washed
Black Burn
ED Bdy Def
Fishing Lodge
Herd's Hill
Craigencollan
Aqueduct
Garpel Bridge
Quarry (dis)
Yearnstone Knowe
Path
Garpel Burn
Co Const Bdy Def
Craigencolon
Drain
Sluice
Dam
McDowalls Isle
Jetty
Boat House
Track
(Reservoir)
Newlyn datum
Loch Doon (Reservoir)
Top water level 215 metres above Newlyn datum.
47
48
49
98
99
25'
24'
23'
15'
LONG 4° 22'W
LAT 55° 16'
250000m
600000m





NX49NE LOCH DOON NX496970 15th AUGUST 1996

MAP (5)

NX4913 LOCH DOON NX496970 15th AUGUST 1996

A very large natural loch occupying a south-north trending valley. The loch is dammed by a 1930s Hydro-electric development. This raised the loch level - it appears that the mean water level has in recent times dropped. Consequently there are a series of draw down habitats. The eastern (northern) shorelines are generally very exposed - rocky - with little vegn. There is more variation on western side esp. in flats associated with inflows. There is a well marked zonation - higher areas - formerley flooded - these are reverting to dry/damp ground communities e.g. acid (Mol) grasslands. Seasonally or occasionally flooded zones - often flats - generally Agcanina grasslands. Annually flooded - rocky areas little vegn - stony/finer substrates with fairly good drawdown community (as (A) below) - extensive. Aquatic zone mainly in sheltered areas consists almost exclusively of Jb Cah - abundant. The flora generally is limited - no doubt due to hostile environment created by drawdown regime which has left only most tolerant species. This has created a very uniform site with limited range of communities and species. However those that can tolerate the conditions (both species - communities) are super-abundant.

Site surveyed by selective sampling (only partly covered by walking)

(A) : Aquatic vegn - Jb Cah
Extensive draw down zone stoney with silt/clay - occasional flushed areas:
Typical community - Ags Je Hyd RFl Ja Jb Lyp CxnMon Tp Elp Cas Cxd Lit Vs Egf Fon Ph Cxe Cxro Ppol M sec Gnapulig Euphragg Sac Gp Cxov Nardstr Jsq Leonaut Spergarv Sag proc Jbuf Isoset Ega Prunvul Potere Persicaria minor

(B) Former bay - ? periodic flooding.
A long inlet - with central channel-stream - this (banks) have areas of Glf S22a Cxro S9a Elp S19a : Hyd RFl Hip Myl (Cas) Ro
- surrounding areas support: Je M23b nr channel; extensive areas of Des cesp grassland; Agcan grassland - flats (with Carumvert Cxov Ph Mon - occ S22a areas in channels) these communities grade into Mol caer dominated communities.

(C) Shoreline - extensive rocky draw down zone with washed out peat flats - typical open vegn community sim. to (A) grading into acid grasslands
(C1) - Jac Mol caer mire
(C2) - Loch edge - open water :- very exposed generally 0 aqu. vegn except for areas sheltered by boulders, old walls
(a) Edge community of Jb Cas Cah Fon Lyp Ph - aquatic community Jb (b)
'this also covers large area of 'inflow bay'

(D) Steep → vertical shoreline bedrock boulder shore some exposed sandy beaches. Very little vegn on shore or in water

(E) Area of rock islets - old wall exposures - flats with Agcan/Jb communities

(F) Large bay with extensive draw-down zone
(F1) Inflow - large stream/small river - strong flow over boulder/stonebed
Bay generally zoned as follows - upperzone open Molcaer mire
derived from peats hence dominance Agcan → middle zone - extensive 'flats' Agcan occ. flushed areas Era Cxro Elp Jb Spn Hyd RFl Je Cxn Ja Tp Egf PhMon
lowerzone - (annual draw down) - Jb with Agcan mosaic - Hyd Lyp RFl Cxro Lit
lowestzone Jb → into water Jb aquatic

(F2) Mainly extensive Agcan flats with Jb - watersedge some Molcaer upperzone

(G) 'drowned' wall line
(H) Aquatic community sparse in exposed areas dense where sheltered eg. in lee of old walls : Jb Filalgae Cah Sphag Vs Lyp Cas Lit
(H1) As (H) but sparse or only algae
(H2) Aquatic community :- Jb Cah Spa Lyp Ages Lit Cas Bryophyte (H2.1) - Dense sward (H3) Bay vegn mainly in lee of boulders gen. sparse :- Jb Filalgae Cah Sphag Vs Lyp Cas Lit
(I) Exposed - boulder/rock shoreline
(J) Exposed headland - sandy beach → backed by Jb flats → boulder shore
(H4) Aquatic community Sparse + Jb Sph Cah Bryophyte Glf Ags Vs Lyp (Lit)

(K) Main Inflow - Gala Lane
Small river over boulder bed - strong flow
Broad channel into 'loch area' - strong current - deep water. - abundant vegn:-
Sb Sphag Bryophyte Cah CasLyp Mal Glf Vs (Isl)

(L) 'Flats' around inflow - seasonal flooding - fairly extensive
General zonation upper areas → Molcaer (La) mire → Mosaic Cxro Sqa / Agcan Flats / Cxn stands / Sz2a Glf pebbles →
Agcan Ags Flats → Agcan Sb channelside
other spp. HipLyp Vs Era Sphag Se

(L1) Narrower zonation Molcaer → AgcanCxn community with Cxro occ pebbles with Glf ld → Sb ± Glf along channelside