1996 LOCH SURVEY: STRATHCLYDE* AREA

Code NS2807 Name LINDOWAN RESERVOIR Grid Ref NS241815

Date 9th July 1996 Surveyors SSD/CLD Estate

Area 4·7 ha Altitude 140 m Catchment ha Geology 39

Water colour BROWN Clarity CLEAR Boat used NO Secchi disc depth / m

Loch type 3 Edge type(s) M23a, M23b, S9a, S22a, S10a, S10b, S27a (NVC codes)

Status Access 3c 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	Conifer plantation along E. side (5-20m back) 20+yrs. Conifer plantation near N.W corner - felled. Some recent broad leaved planting around loch
Agricultural pollution	
Edge trampling	
Fishing (edge/boat)	Rented by local fishing club. Fishing hut. Swanner - Bank Fishing (Cumbernauld A.C.)
Litter	
Shooting	
Water abstraction	? - probably still used for potable water

SURROUNDING LAND USE:

Forestry plantations
Rough grazing

FAUNA

Mammals

Birds: Common Gull - breeding ser. prs.

Reptiles
Amphibians

Fish

Dragonflies & other invertebrates: Enallagma cyathigerum

SPECIES DIVERSITY

Edge	15
Open water	7
Total	20

RARE SPECIES

Scarce (*)

Red Data Book (**)

WATER CHEMISTRY

Alkalinity	0·08	meq/l
Conductivity	71	µS/cm
p.H.	5·6	

* Councils: Argyll & Bute (part), West & East Dunbartonshire, North & South Lanarkshire, City of Glasgow, East Renfrewshire, Renfrewshire, Inverclyde, North, South & East Ayrshire unitary authorities.

OLL 6/96

1996 STRATHCLYDE AREA LOCH SURVEY: AQUATIC PLANT SPECIES LIST

Code NS2807 Site name LINDOWAN RESERVOIR Grid ref NS241815 Date 9 JULY 1996

SUBMERGED & FLOATING SPECIES

Map code	Species	DAFOR
Api	*Apium inundatum*	
Af	*Azolla filiculoides*	
Bar	*Baldellia ranunculoides*	
Cab	*Callitriche brutia*	
Cah	*Callitriche hamulata*	F
Cher	*Callitriche hermaphroditica*	
Cao	*Callitriche obtusangula*	
Cpla	*Callitriche platycarpa*	
Cas	*Callitriche stagnalis*	LF
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*	
Grd	*Groenlandia densa*	
Hip	*Hippuris vulgaris*	
Hop	*Hottonia palustris*	
Hmr	*Hydrocharis morsus-ranae*	
Hyd	*Hydrocotyle vulgaris*	O
Ise*	*Isoetes echinospora*	
Isl	*Isoetes lacustris*	
Lam	*Lagarosiphon major*	
Lg	*Lemna gibba*	
Lm	*Lemna minor*	
Lmi	*Lemna minuta*	
Lt	*Lemna trisulca*	
Lit	*Littorella uniflora*	R/LA
Lob	*Lobelia dortmanna*	
Lun	*Luronium natans*	
Lyp	*Lythrum portula*	
Mal	*Myriophyllum alterniflorum*	
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*	

Map code	Species	DAFOR
Pob	*Potamogeton obtusifolius*	
Ppec	*Potamogeton pectinatus*	
Pper	*Potamogeton perfoliatus*	
Ppol	*Potamogeton polygonifolius*	INFREQUENT
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*	F/LA
Spem	*Sparganium emersum*	
Spn	*Sparganium natans*	
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	O
Cha	*Chara* sp.	
Nit	*Nitella* sp.	

SPECIES TOTAL 7

Other species not included in total:

Sphag	*Sphagnum* sp.	LO

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.

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

All species names follow those in Stace 1991.

1996 STRATHCLYDE AREA LOCH SURVEY: AQUATIC PLANT SPECIES LIST

Code NS2807 Site name LINDOWAN RESERVOIR Grid ref NS241815 Date 9/July/1996

EMERGENT & EDGE SPECIES

Map code	Species	DAFOR
Ac	*Acorus calamus*	
Ags	*Agrostis stolonifera*	F
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*	
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*	LF
Cxv	*Carex vesicaria*	
Ca	*Catabrosa aquatica*	
Civ*	*Cicuta virosa*	
Clm	*Cladium mariscus*	
Des*	*Deschampsia setacea*	
Ela	*Eleocharis acicularis*	
Elm	*Eleocharis multicaulis*	
Elp	*Eleocharis palustris*	
Elq	*Eleocharis quinqueflora*	
Elu	*Eleocharis uniglumis*	
Eqf	*Equisetum fluviatile*	LA
Eqp	*Equisetum palustre*	
Era	*Eriophorum angustifolium*	LF
Gld	*Glyceria declinata*	
Glf	*Glyceria fluitans*	F
Glm	*Glyceria maxima*	
Gln	*Glyceria notata*	
Hip	*Hippuris vulgaris*	
Hyd	*Hydrocotyle vulgaris*	A
Ip	*Iris pseudacorus*	
Iv	*Iris versicolor*	
Jac	*Juncus acutiflorus*	A
Jaa*	*Juncus alpinoarticulatus*	
Ja	*Juncus articulatus*	O
Jb	*Juncus bulbosus*	LO
Jc	*Juncus conglomeratus*	
Je	*Juncus effusus*	F/LA
Lit	*Littorella uniflora*	
Lyc*	*Lycopodiella inundata*	
Lyt*	*Lysimachia thyrsiflora*	
Lyp	*Lythrum portula*	
Lys	*Lythrum salicaria*	
Ma	*Mentha aquatica*	
Mt	*Menyanthes trifoliata*	O/LA
Mg	*Mimulus guttatus*	
Ml	*Mimulus luteus*	
Mm	*Mimulus moschatus*	
Mi	*Mimulus* sp.	
Mon	*Montia fontana*	R
Myl	*Myosotis laxa*	
Msc	*Myosotis scorpioides*	
Msec	*Myosotis secunda*	
Oc	*Oenanthe crocata*	
Of	*Oenanthe fistulosa*	
Pam	*Persicaria amphibia*	
Ph	*Persicaria hydropiper*	
Pha	*Phalaris arundinacea*	
Phr	*Phragmites australis*	
Pop	*Potentilla palustris*	F/LA
Rfl	*Ranunculus flammula*	O
Rh	*Ranunculus hederaceus*	
Rl	*Ranunculus lingua*	
Ro	*Ranunculus omiophyllus*	
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*	

SPECIES TOTAL 15

Other edge species

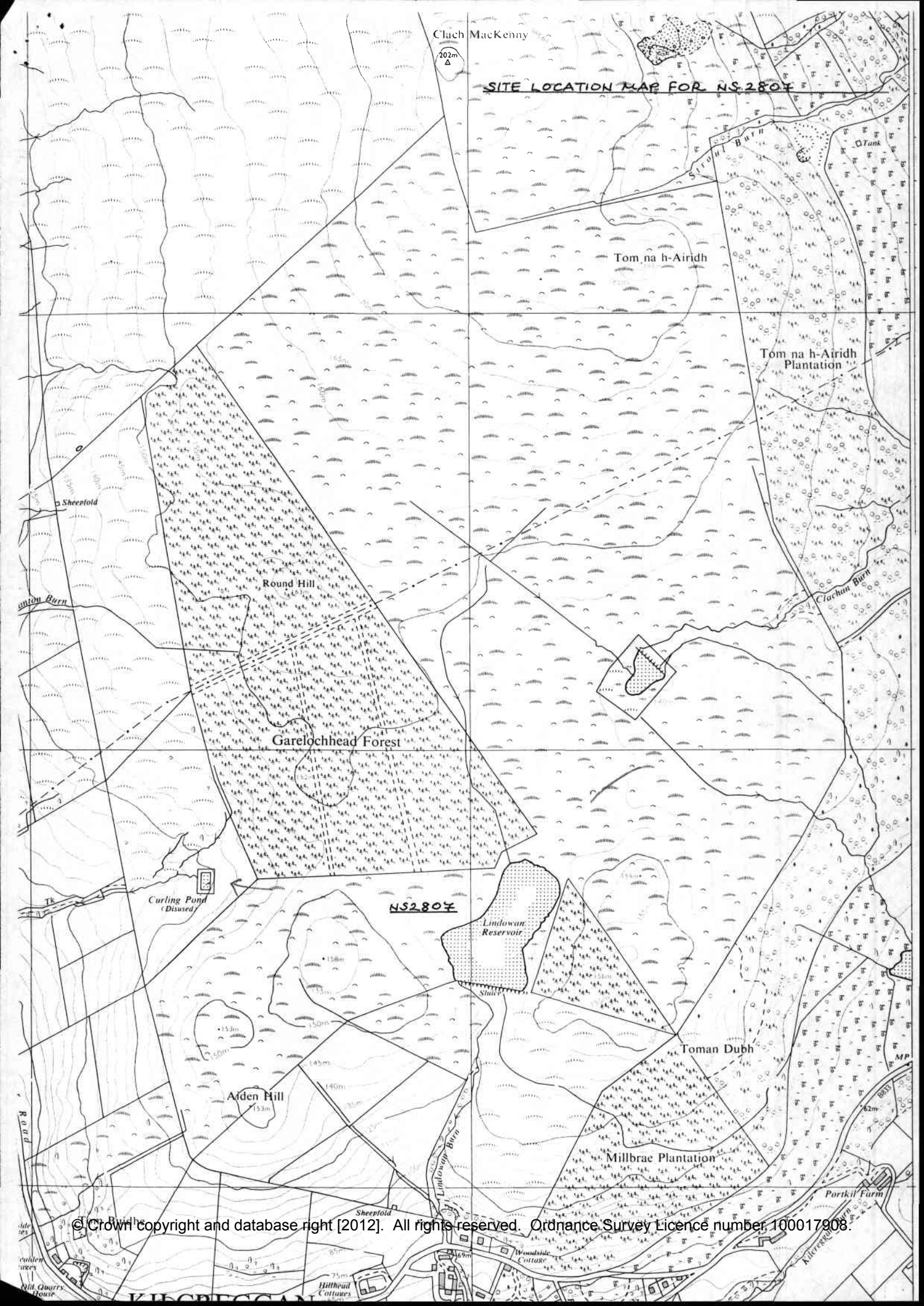
Cxd	*Carex viridula* ssp. *oedocarpa* (=*C.demissa*)
Cxe	*Carex echinata*
Cxel	*Carex elata*
Cxp	*Carex panicea*
Cxpa	*Carex paniculata*
Gp	*Galium palustre* O
Sa	*Senecio aquaticus*
Tp	*Triglochin palustre*
Vp	*Viola palustris* F

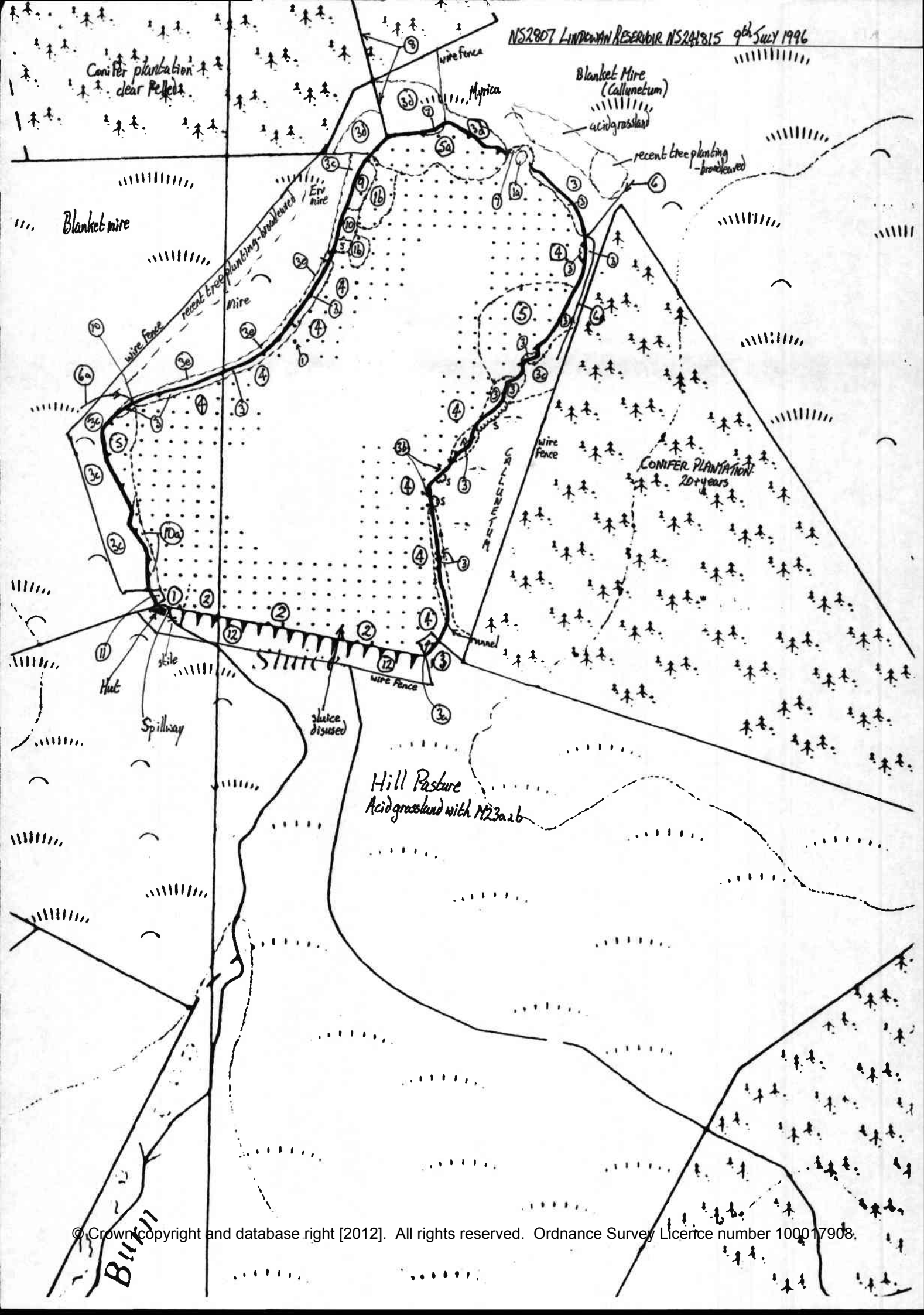
Note: * = Scarce plants (occurring in 16-100 10x10km squares in Great Britain) known to occur in the Scottish Environment Agency West Region.

** = Relatively scarce plants (occurring in 101-300 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





NS2807 LINDOWAN RESERVOIR NS241815 9th July 1996

A medium sized water-supply reservoir. Artificially dammed basin in blanket mire partially planted with conifers. A typical type 3.

① Open water - boulder shoreline Spa (Cah)

1a " " - peaty bay Spa

1b " " - peaty Spa Glf Cah Jb Sphag

② Open water off dam steeply shelving boulder shore - 0 macrophytes

③ Edge - Littoral zone M23a Jac dominated Hyd Ags Alopgen Pop Jbuf Con Cxcur Cxor Je Cardpratt Gp Carumner Vp Epipal RFl (Mt)

3a Stock - drinking point - stones/gravel bed Cas

3b Edge - bedrock - narrow shelf ± M23b Je Glfac

3c Edge M23b Je mire

3d Edge Je Sphag mire edge with patches of S27a Hyd Mt Pop Ags

3e " Je Sphag Hyd mire with Con Eria Poly carnaire Agc Cacuta Pop

④ Open water - gently shelving over gravel stone boulder bed macrophytes only occasional (Cah Spa Jb)

⑤ Swamp - open water stands of S10a over gravel & soft peaty substrates Eqf Lit on edge (Cas Jb)

5a " " " " " S16b Cxro Eqf over soft substrates

5b " " " " " S10a Eqf Sphag Jb Cah - open structure offshore
Eqf dense inshore including area of S27 Mt Pop

⑥ Drain thro' peat c60cm wide Ppol Cas Hyd RFl Ags

6a " " " " " Ppol Jac Glf Hyd

⑦ Swamp stand S9a Cxro open structure

⑧ Channel inflow c2m wide peaty bed S22a Glf Ags Je Filamentous algae

⑨ Open water/Swamp S27a Mt Eqf Glf

⑩ Swamp S22a Glf with patches of Cas Jb Eqf

10a Eroding margin patchy beds of S22a Glf Cas edge b = ③ backed by 3c

⑪ Drinking point - open muddy Glf Pop bed backed by M23b Je = 3c

⑫ Dam - stone - supporting acid grassland with patches of M23a and b Loch edge veg^n sparse some M23a Jac (Eqf Glf Con Carum) Vp Ags

S5 = Salix cinerea