

1997 LOCH INVENTORY: SOUTH EAST SCOTLAND*

Code NT 824404 Name HIRSEL LAKE Grid Ref NT 824404
 Date 25/6/97 Surveyors JJD/MB Estate
 Area 11.80 ha Altitude 10 m Catchment ha Geology 80
 Water colour Pale green Clarity Clear Boat used No Secchi disc depth 1 m
 Loch type 10 Edge type(s) S4a, S26a, S4b, S26b, S6 S23 (NVC codes)
 Status The Hirsell 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	<u>Amenity plantation around 2 sides.</u>
Agricultural pollution	<u>Arable fields surrounding (run-off?)</u>
Edge trampling	.....
Fishing (edge/boat)	.....
Litter	.....
Shooting	.....
Water abstraction	.....

SURROUNDING LAND USE:

Country park. Amenity woodland + grasslands. Arable fields beyond this on 3 sides.

FAUNA

Mammals	Birds	Reptiles Amphibians	Fish	Dragonflies & other invertebrates
	<u>Mallard (c100) (Br)</u> <u>Coot (Br)</u> <u>Moorhen</u> <u>Sedge warbler</u> <u>Tufted duck</u> <u>Hean Pochard</u>			

SPECIES DIVERSITY

RARE SPECIES

WATER CHEMISTRY

Edge	<u>10</u> Scarce (*)	Alkalinity	<u>3.70</u> meq/l
Open water	<u>3</u> Red Data Book (**)	Conductivity	<u>580</u> µS/cm
Total	<u>13</u>	p.H.	<u>7.57</u>

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* Includes Angus, City of Edinburgh, Clackmannanshire, Dundee City, East Lothian, Falkirk, Fife, Midlothian, Perth & Kinross, Scottish Borders, Stirling and West Lothian unitary authorities.

1997 SOUTH EAST SCOTLAND LOCH INVENTORY: AQUATIC PLANT SPECIES LIST

Code ~~NT 83404~~ Site name HIRSEL LAKE Grid ref ~~NT 834401~~ Date 25/6/97

SUBMERGED & FLOATING SPECIES

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

SPECIES TOTAL 3
Vaucheria sp. LA
 Other species not included in total:
 Sphag *Sphagnum* sp.
 *Enteromorpha* sp.
 *Cladophora* sp.
 F
 FLA

Specimens:
Chara sp. Potamogeton identification verified by C. D. Preston
Nitella sp.
Potamogeton sp. Ppu 78/97
Utricularia sp.

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

1997 SOUTH EAST SCOTLAND LOCH INVENTORY: AQUATIC PLANT SPECIES LIST

Code NT 8404 Site name HIRSEL LAKE Grid ref NT 824401 Date 25/6/97

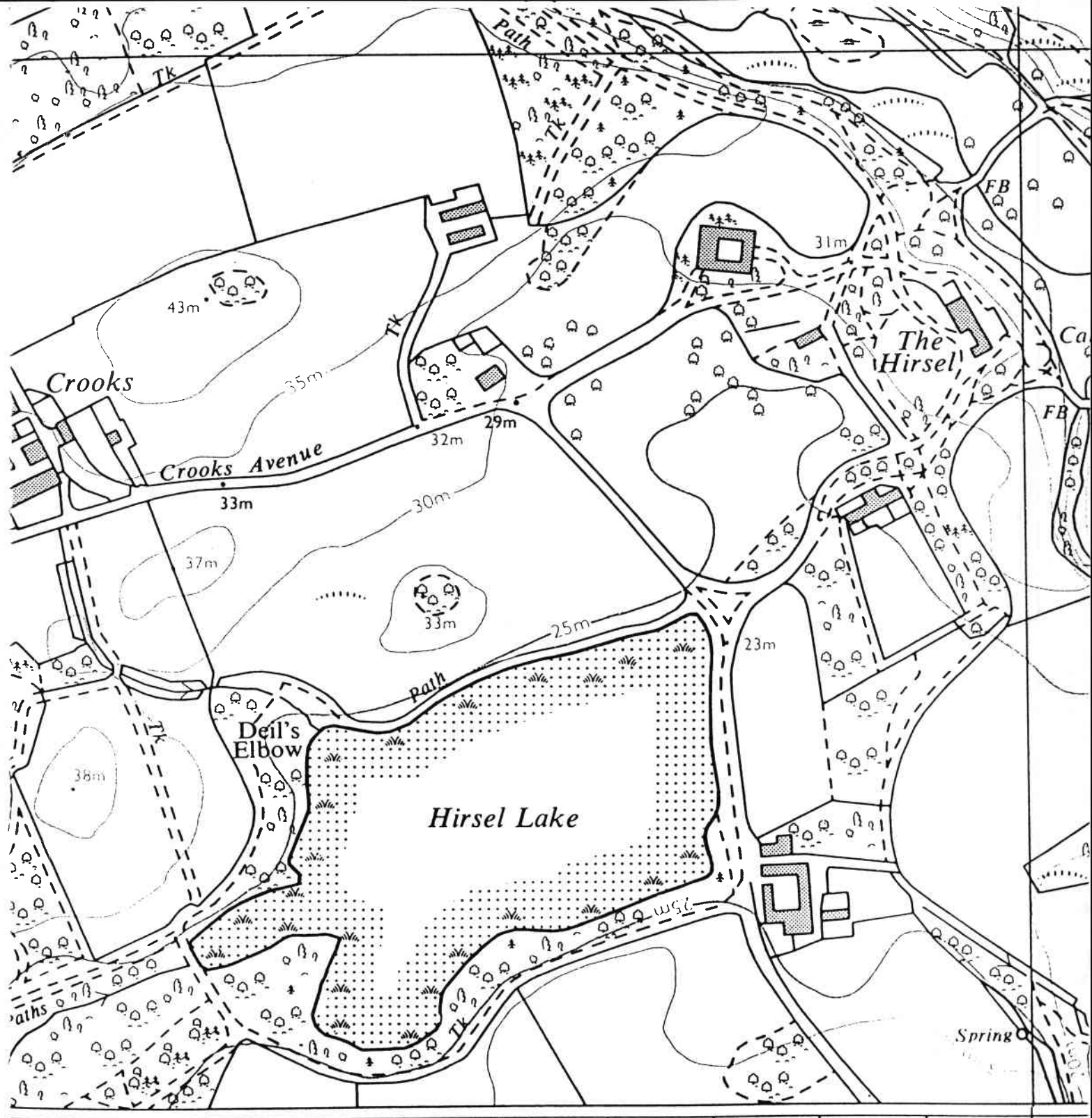
EMERGENT & EDGE SPECIES

Map code	Species	DAFOR	Map code	Species	DAFOR
Ac	<i>Acorus calamus</i>	.....	Ma	<i>Mentha aquatica</i>	F.....
<u>Ags</u>	<u><i>Agrostis stolonifera</i></u>	0/LF..	Mt	<i>Menyanthes trifoliata</i>	.....
Al	<i>Alisma lanceolatum</i>	.....	Mg	<i>Mimulus guttatus</i>	.....
Apa	<i>Alisma plantago-aquatica</i>	.....	MI	<i>Mimulus luteus</i>	.....
Apn	<i>Apium nodiflorum</i>	.....	Mm	<i>Mimulus moschatus</i>	.....
Bar	<i>Baldellia ranunculoides</i>	.....	Mi	<i>Mimulus sp.</i>	.....
Ber	<i>Berula erecta</i>	.....	Mon	<i>Montia fontana</i>	.....
Bom	<i>Bolboschoenus maritimus</i>	.....	Myl	<i>Myosotis laxa</i>	.....
Bu	<i>Butomus umbellatus</i>	.....	<u>Msc</u>	<u><i>Myosotis scorpioides</i></u>	F/LA
Cal	<i>Calla palustris</i>	.....	Msec	<i>Myosotis secunda</i>	.....
Cab	<i>Callitriche brutia</i>	.....	Mst*	<i>Myosotis stolonifera</i>	.....
Cas	<i>Callitriche stagnalis</i>	.....	Oa	<i>Oenanthe aquatica</i>	.....
<u>Cap</u>	<u><i>Caltha palustris</i></u>	0.....	Oc	<i>Oenanthe crocata</i>	.....
Cxat	<i>Carex acuta</i>	.....	Of	<i>Oenanthe fistulosa</i>	.....
Cxaf	<i>Carex acutiformis</i>	.....	<u>Pam</u>	<u><i>Persicaria amphibia</i></u>	F.....
Cxa	<i>Carex aquatilis</i>	.....	Ph	<i>Persicaria hydropiper</i>	.....
Cxl	<i>Carex lasiocarpa</i>	.....	Pha	<i>Phalaris arundinacea</i>	.....
Cxli	<i>Carex limosa</i>	.....	<u>Phr</u>	<u><i>Phragmites australis</i></u>	A/LD
Cxn	<i>Carex nigra</i>	.....	Pop	<i>Potentilla palustris</i>	.....
<u>Cxri</u>	<u><i>Carex riparia</i></u>	LA.....	Rfl	<i>Ranunculus flammula</i>	.....
Cxro	<i>Carex rostrata</i>	.....	Rh	<i>Ranunculus hederaceus</i>	.....
Cxv	<i>Carex vesicaria</i>	.....	RI	<i>Ranunculus lingua</i>	.....
Ca	<i>Catabrosa aquatica</i>	.....	Ro	<i>Ranunculus omiophyllus</i>	.....
Civ*	<i>Cicuta virosa</i>	.....	Rr	<i>Ranunculus reptans</i>	.....
Clm	<i>Cladium mariscus</i>	.....	Rs	<i>Ranunculus sceleratus</i>	.....
Des*	<i>Deschampsia setacea</i>	.....	Roa	<i>Rorippa amphibia</i>	.....
Elac	<i>Eleocharis acicularis</i>	.....	Roi	<i>Rorippa islandica</i>	.....
Elm	<i>Eleocharis multicaulis</i>	.....	Rm	<i>Rorippa microphylla</i>	.....
Elp	<i>Eleocharis palustris</i>	.....	Rna	<i>Rorippa nasturtium-aquaticum</i>	.....
Elq	<i>Eleocharis quinqueflora</i>	.....	Rxs	<i>Rorippa x sterilis</i>	.....
Elu	<i>Eleocharis uniglumis</i>	.....	Rxh	<i>Rumex hydrolapathum</i>	.....
Eqf	<i>Equisetum fluviatile</i>	.....	Scp**	<i>Scheuchzeria palustris</i>	.....
Eqp	<i>Equisetum palustre</i>	.....	SI	<i>Schoenoplectus lacustris</i>	.....
Eqxl	<i>Equisetum x litorale</i>	.....	St	<i>Schoenoplectus tabernaemontani</i>	.....
Era	<i>Eriophorum angustifolium</i>	.....	Spem	<i>Sparganium emersum</i>	.....
Gld	<i>Glyceria declinata</i>	.....	<u>Sper</u>	<u><i>Sparganium erectum</i></u>	0/LF..
Glf	<i>Glyceria fluitans</i>	.....	Ta	<i>Typha angustifolia</i>	.....
Glm	<i>Glyceria maxima</i>	.....	TI	<i>Typha latifolia</i>	.....
Gln	<i>Glyceria notata</i>	.....	Vaa	<i>Veronica anagallis-aquatica</i>	.....
Glxp	<i>Glyceria x pedicellata</i>	.....	<u>Vb</u>	<u><i>Veronica beccabunga</i></u>	0.....
Hip	<i>Hippuris vulgaris</i>	.....	Vc	<i>Veronica catenata</i>	.....
Hyd	<i>Hydrocotyle vulgaris</i>	.....	Vs	<i>Veronica scutellata</i>	.....
<u>Ip</u>	<u><i>Iris pseudacorus</i></u>	0.....			
Iv	<i>Iris versicolor</i>	.....		SPECIES TOTAL	10.....
Jac	<i>Juncus acutiflorus</i>	.....		Other edge species	
Jaa*	<i>Juncus alpinoarticulatus</i>	.....	Cxd	<i>Carex viridula ssp. oedocarpa (=C. demissa)</i>	
Ja	<i>Juncus articulatus</i>	.....	Cxe	<i>Carex echinata</i>	
Jb	<i>Juncus bulbosus</i>	.....	Cxp	<i>Carex panicea</i>	
Jc	<i>Juncus conglomeratus</i>	.....	Cxpa	<i>Carex paniculata</i>	
Je	<i>Juncus effusus</i>	.....	<u>Gp</u>	<u><i>Galium palustre</i></u>	0/LF
Lim*	<i>Limosella aquatica</i>	.....	Sa	<i>Senecio aquaticus</i>	
Lit	<i>Littorella uniflora</i>	.....	Tp	<i>Triglochin palustre</i>	
Lyc*	<i>Lycopodiella inundata</i>	.....	Vp	<i>Viola palustris</i>	
Lyt*	<i>Lysimachia thyrsoiflora</i>		<u><i>Scrophularia umbrosa LF</i></u>	
Lyp	<i>Lythrum portula</i>			
Lys	<i>Lythrum salicaria</i>			

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** = Red Data Book Species (occurring in >15 10x10km squares in Great Britain) known to occur in the Scottish Environment Protection Agency East & West Regions.

All species names follow those in Stace 1991.



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1997 LOCH INVENTORY

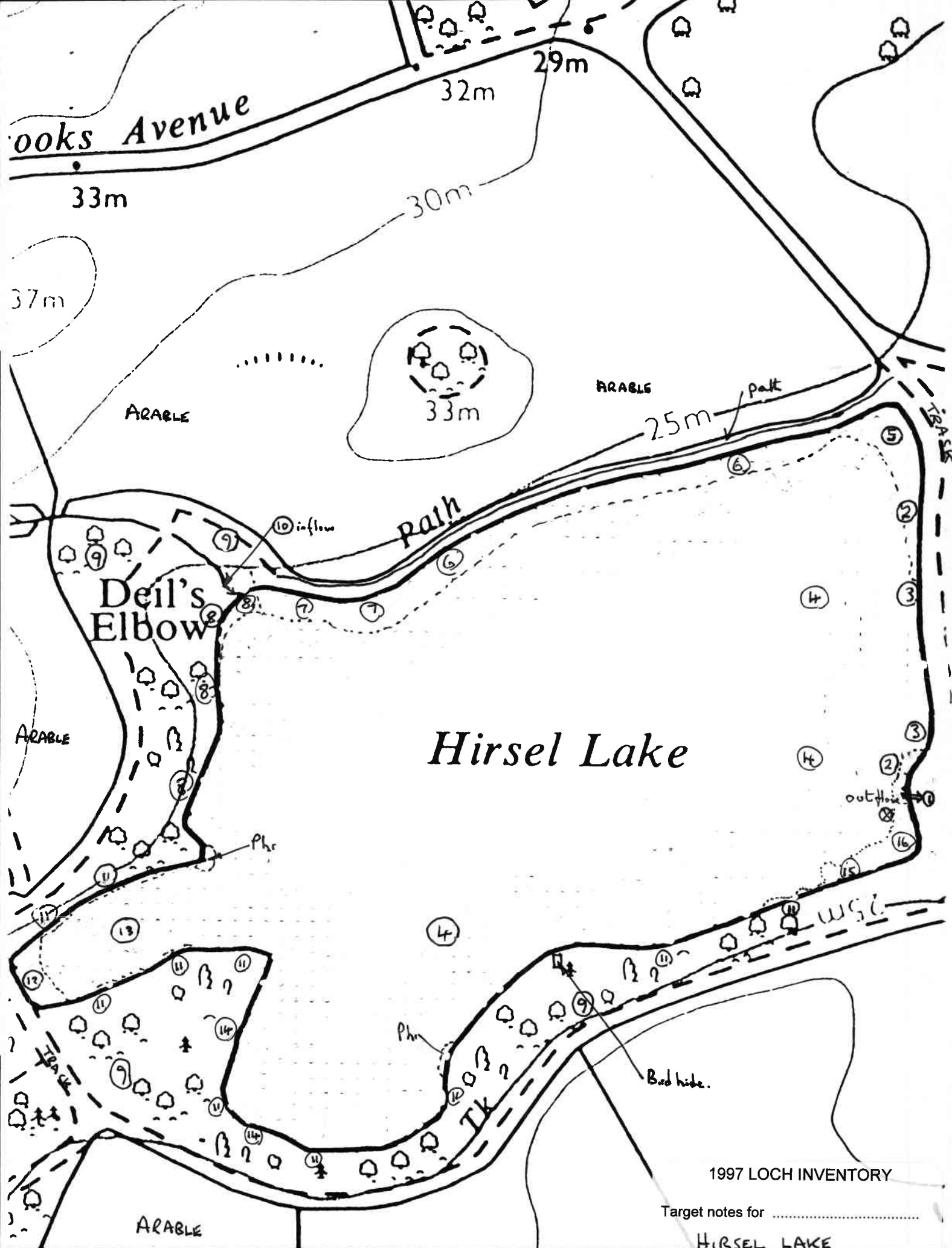
Site location map for NT 834401

HIRSELL LAKE

Grid reference NT 834401

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Date 25/6/97



1997 LOCH INVENTORY

Target notes for

HIRSELL LAKE

An amenity lake set in a country park. Notable for abundant *Carex riparia*. Wildfowl.

- ① Outflow with stone cill, into culvert.
- ② Phr fringe backed by narrow strip of tall herbs: Urt dio, Epi hir, Gal aparine, with mown grass adjacent
- ③ Trees & shrubs (willow, ash, alder) shade bank, over tall herbs. Mown grass reaches shore in occasional gap. ± no fringe. Artificial, low stone bank in places.
- ④ Dense beds of Zan + Ppu with filamentous algae + Entomorpho.
- ⑤ Phr fringe backed by tall herb fen with: Cxri, Epi hir, Galium aparine, Calystegia sp, Phr, Rubus sp, Sol dulc, Sper (local)
- ⑥ Phr fringe backed by a mosaic of tall herb / tall herb fen and patches of scrub with small trees. Shrubs + trees include: willow, hawthorn, alder, poplar, rose, elm + sycamore. Herbs: Cxri, Phr, Epi hir, Urt dio, Gal apar, Fil ulm (LN), Sol dulc, ... Scutularia, Ma, Angelica. Phragmites fringe usually < 3m; Tall herbs & shrubs up to 20m wide.
- ⑦ Similar to ⑥. Phragmites and tall herb bands wider, backed by line of shrubs + mature oaks alongside path.
- ⑧ Salix or Alnus carr
- ⑨ Deciduous mixed amenity woodland.
- ⑩ Stream in, 1.5m, slow, shallow, over silt
- ⑪ Adjacent woodland sometimes reaches shoreline, elsewhere bank is shaded by frequent alder or willow. Herbaceous fringe often sparse, but Phragmites is locally abundant, often backed by tall herbs, mainly Urt dio + Epi hir. Also occasional Ma, Msc Ip.
- ⑫ Wet alder carr fronted by narrow fringe of Phr.
- ⑬ Shallow with silt bed.
- ⑭ Salix shades shoreline, backed by Urt dio + mature alder
- ⑮ Wide Phr fringe backed by Salix over Urtica.
- ⑯ Phr fringe backed by tall herbs: including frequent Scutularia umbrosa, with Salix beyond.