

1997 LOCH INVENTORY: SOUTH EAST SCOTLAND*

3164
3164.1-5

Code NN6301 Name LOCH TAY Grid Ref NN674374
 Date 22/21/9/97 Surveyors OL JJD FH Estate
 Area 2629.10 ha Altitude 100 m Catchment ha Geology 19/24/27/35/37
 Water colour COLOURLESS Clarity CLEAR Boat used YES Secchi disc depth 5.22 m
 Loch type 3 Edge type(s) S4a S9a S9b S10a S11a S19b S28a (NVC codes)
 Status LOCH TAY MARSHES 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
Observations

Use	Observations
Adjacent forestry	<u>coniferous plantation at NW end and SW end of loch catchment</u>
Agricultural pollution	<u>Defunct fish farm cages at eastern end of loch</u>
Edge trampling	.....
Fishing (edge/boat)	<u>Mostly boat fishing - incl. trolling for salmon</u>
Litter	<u>Beer cans</u>
Shooting	.....
Water abstraction	.....
Recreation	<u>water sports</u> <u>Various incl. jet skiing, sailing, canoeing, motor boating + water polo to new 'cranny'</u>
Power station	<u>at western end of loch</u>

SURROUNDING LAND USE:

ROUGH GRAZING
CONIFEROUS FORESTRY
DECIDUOUS WOODLAND

FAUNA

Mammals	Birds	Reptiles Amphibians	Fish	Dragonflies & other invertebrates
	<u>Mallard</u> <u>Dipper</u> <u>Heron</u> <u>Cormorant</u>		<u>Minnow</u> <u>3 spined stickleback</u>	

SPECIES DIVERSITY

RARE SPECIES

WATER CHEMISTRY

Edge	<u>23</u>	Scarce (*)	Alkalinity	<u>0.18</u> meq/l
Open water	<u>25</u>	Red Data Book (**)	Conductivity	<u>46</u> µS/cm
Total	<u>47</u>		p.H.	<u>6.31</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 NN6301 Site name LOCH TAY Grid ref NN674374 Date 22. & 29/9/97

SUBMERGED & FLOATING SPECIES

Map code	Species	DAFOR	Map code	Species	DAFOR
<u>Api</u>	<u>Apium inundatum</u>	<u>LO</u>	<u>Pxn</u>	<u>Potamogeton x nitens</u>	<u>R/LF</u>
<u>Apd</u>	<u>Aponogeton distachyos</u>	.....	<u>Pob</u>	<u>Potamogeton obtusifolius</u>	.....
<u>Af</u>	<u>Azolla filiculoides</u>	.....	<u>Pxo</u>	<u>Potamogeton x olivaceus</u>	.....
<u>Bar</u>	<u>Baldellia ranunculoides</u>	<u>LF</u>	<u>Ppec</u>	<u>Potamogeton pectinatus</u>	.....
<u>Cah</u>	<u>Callitriche hamulata</u>	<u>LO</u>	<u>Pper</u>	<u>Potamogeton perfoliatus</u>	<u>O/LF</u>
<u>Cher</u>	<u>Callitriche hermaphroditica</u>	.....	<u>Ppol</u>	<u>Potamogeton polygonifolius</u>	<u>R/LP</u>
<u>Cao</u>	<u>Callitriche obtusangula</u>	.....	<u>Ppra</u>	<u>Potamogeton praelongus</u>	.....
<u>Cpla</u>	<u>Callitriche platycarpa</u>	.....	<u>Ppu</u>	<u>Potamogeton pusillus</u>	.....
<u>Cas</u>	<u>Callitriche stagnalis</u>	<u>R</u>	<u>Pxsa</u>	<u>Potamogeton x salicifolius</u>	.....
<u>Ca</u>	<u>Callitriche sp.</u>	.....	<u>Pxsp</u>	<u>Potamogeton x sparganiifolius</u>	.....
<u>Ced</u>	<u>Ceratophyllum demersum</u>	.....	<u>Pxsu</u>	<u>Potamogeton x suecicus</u>	.....
<u>Crh</u>	<u>Crassula helmsii</u>	.....	<u>Pt*</u>	<u>Potamogeton trichoides</u>	.....
<u>Ela</u>	<u>Elatine hexandra</u>	.....	<u>Pxz</u>	<u>Potamogeton x zizii</u>	.....
<u>Elh*</u>	<u>Elatine hydropiper</u>	.....	<u>Ra</u>	<u>Ranunculus aquatilis</u>	.....
<u>Ef</u>	<u>Eleogiton fluitans</u>	.....	<u>Rb</u>	<u>Ranunculus baudotii</u>	.....
<u>Ec</u>	<u>Elodea canadensis</u>	<u>O</u>	<u>Rc</u>	<u>Ranunculus circinatus</u>	.....
<u>En</u>	<u>Elodea nuttallii</u>	.....	<u>Rf</u>	<u>Ranunculus fluitans</u>	.....
<u>Fon</u>	<u>Fontinalis antipyretica</u>	<u>O/LF</u>	<u>Rxk</u>	<u>Ranunculus x kelchoensis</u>	.....
<u>Grd</u>	<u>Groenlandia densa</u>	.....	<u>Rp</u>	<u>Ranunculus peltatus</u>	.....
<u>Hip</u>	<u>Hippuris vulgaris</u>	.....	<u>Rpse</u>	<u>Ranunculus penicillatus</u>	.....
<u>Hmr</u>	<u>Hydrocharis morsus-ranae</u>	.....		<u>ssp. pseudofluitans</u>	.....
<u>Hyd</u>	<u>Hydrocotyle vulgaris</u>	.....	<u>Rtr</u>	<u>Ranunculus trichophyllus</u>	.....
<u>Ise*</u>	<u>Isoetes echinospora</u>	.....	<u>Rum</u>	<u>Ruppia maritima</u>	.....
<u>Isl</u>	<u>Isoetes lacustris</u>	<u>A</u>	<u>Sas</u>	<u>Sagittaria sagittifolia</u>	.....
<u>Jb</u>	<u>Juncus bulbosus</u>	<u>R/LF</u>	<u>Spa</u>	<u>Sparganium angustifolium</u>	<u>R/LF</u>
<u>Lam</u>	<u>Lagarosiphon major</u>	.....	<u>Spem</u>	<u>Sparganium emersum</u>	.....
<u>Lg</u>	<u>Lemna gibba</u>	.....	<u>Spn</u>	<u>Sparganium natans</u>	.....
<u>Lm</u>	<u>Lemna minor</u>	.....	<u>Sp</u>	<u>Sparganium sp.</u>	.....
<u>Lt</u>	<u>Lemna trisulca</u>	.....	<u>Spp</u>	<u>Spirodela polyrhiza</u>	.....
<u>Lit</u>	<u>Littorella uniflora</u>	<u>A</u>	<u>Sta</u>	<u>Stratiotes aloides</u>	.....
<u>Lob</u>	<u>Lobelia dortmanna</u>	<u>O/LF</u>	<u>Sub</u>	<u>Subularia aquatica</u>	<u>R/LF</u>
<u>Lun</u>	<u>Luronium natans</u>	.....	<u>Uti</u>	<u>Utricularia intermedia</u>	.....
<u>Lyp</u>	<u>Lythrum portula</u>	<u>LO</u>	<u>Um</u>	<u>Utricularia minor</u>	.....
<u>Mal</u>	<u>Myriophyllum alterniflorum</u>	<u>A</u>	<u>Uo</u>	<u>Utricularia ochroleuca</u>	.....
<u>Msp</u>	<u>Myriophyllum spicatum</u>	.....	<u>Us</u>	<u>Utricularia stygia</u>	.....
<u>Nf*</u>	<u>Najas flexilis</u>	.....	<u>Uva</u>	<u>Utricularia vulgaris/australis</u> agg.	<u>R</u>
<u>Nua</u>	<u>Nuphar advena</u>	.....	<u>Ut</u>	<u>Utricularia sp.</u>	.....
<u>Nul</u>	<u>Nuphar lutea</u>	.....	<u>Zan</u>	<u>Zannichellia palustris</u>	.....
<u>Nup*</u>	<u>Nuphar pumila</u>	.....	<u>Elac</u>	<u>Elodea acicularis</u>	<u>R/LF</u>
<u>Nus</u>	<u>Nuphar x spenneriana</u>	.....	<u>Cha</u>	<u>Chara sp.</u>	.....
<u>Na</u>	<u>Nymphaea alba</u>	.....	<u>Nitflagg</u>	<u>Nitella sp. flexilis</u> agg.	<u>O/LF</u>
<u>Nyp</u>	<u>Nymphoides peltata</u>	.....	<u>Nittr</u>	<u>Nitella translucens</u>	<u>R</u>
<u>Pam</u>	<u>Persicaria amphibia</u>	.....		SPECIES TOTAL	25
<u>Pil*</u>	<u>Pilularia globulifera</u>	.....		
<u>Pal</u>	<u>Potamogeton alpinus</u>	<u>R/LF</u>			
<u>Pbe</u>	<u>Potamogeton berchtoldii</u>	<u>R/LF</u>			
<u>Pcol*</u>	<u>Potamogeton coloratus</u>	.....		
<u>Pcom*</u>	<u>Potamogeton compressus</u>	.....		
<u>Pxco</u>	<u>Potamogeton x cooperi</u>	.....		
<u>Pcr</u>	<u>Potamogeton crispus</u>	.....		
<u>Pfil*</u>	<u>Potamogeton filiformis</u>	.....		
<u>Pfr</u>	<u>Potamogeton friesii</u>	.....		
<u>Pgr</u>	<u>Potamogeton gramineus</u>	<u>R</u>			
<u>Plu</u>	<u>Potamogeton lucens</u>	.....		
<u>Pn</u>	<u>Potamogeton natans</u>	<u>R/LF</u>			

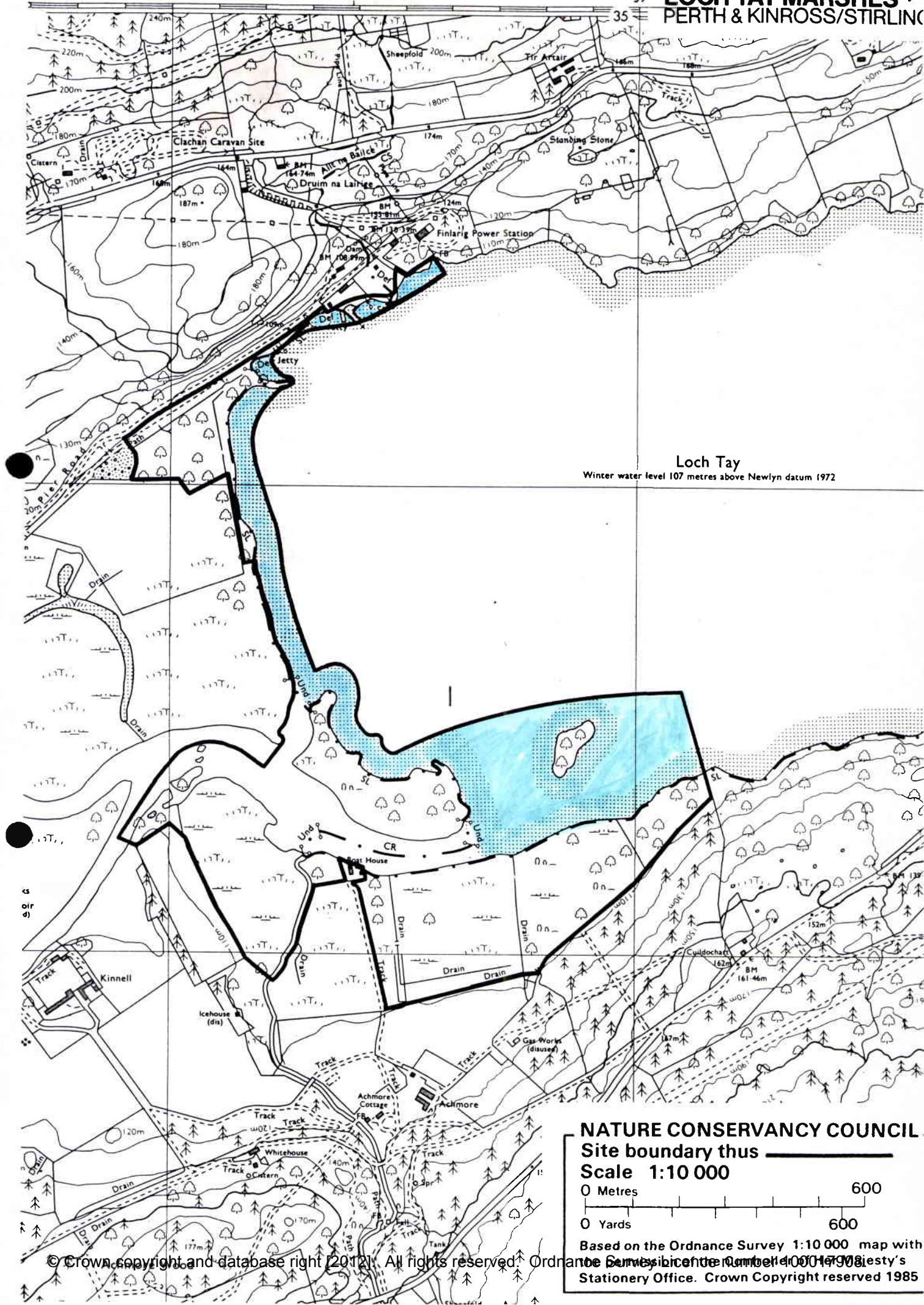
Other species not included in total:

Sphag Sphagnum sp.
PA Filamentum alga O

Potamogeton identification
verified by C. D. Preston

Specimens:	
<u>Chara sp.</u>	<u>Chara verticillata</u> N.F. Stewart
<u>Nitella sp.</u>	<u>N. flexilis</u> [NN63] 242/97; [NN74] 243/97 [NN52] 253/97; <u>N. translucens</u> [NN63] 254/97
<u>Potamogeton sp.</u>	<u>Pper</u> 413/97; <u>Pbe</u> 414/97; <u>Palp</u> 415/97; <u>Ppr</u> 416/97; <u>Pxn</u> 417/97; <u>Ppol</u> 418/97; <u>Ppse</u> 431/97; <u>Pbe</u> 432/97; <u>Pgr</u> 433/97
<u>Utricularia sp.</u>	<u>Uva</u> 241/97 = <u>Utricularia</u>

Note: * = Scarce plants (occurring in 16-100 10x10km squares in Great Britain) known to occur in the Scottish Utricularia identification verified by N.F. Stewart





Loch Tay

Winter water level 107 metres above Newlyn datum 1972

NATURE CONSERVANCY COUNCIL
Site boundary thus 

Scale 1:10 000

0 Metres  600

0 Yards  600

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LOCH TAY MARSHES SSSI

Perth and Kinross District
Stirling District

Tayside Region
Central Region

PLANNING AUTHORITY: As above

File Ref: NN 53/

NATIONAL GRID REFERENCE: NN 584334

AREA (hectares/acres): 65.5/161.9

O.S. 1:50,000 SHEET NO: 51
1:25,000 SHEET NO: NN 43/53
1:10,000 SHEET NO: NN 53 SE

DESCRIPTION:

BOTANICAL, ZOOLOGICAL:

Loch Tay Marshes are an unusually extensive area of poor fen and gently shelving sandy shoreline developed at the western end of Loch Tay; such habitats are rare habitat types in Tayside and Central Regions. Associated with these habitats is carr woodland, and submerged and emergent plant communities. All these habitats contain an unusually large number of plant species, including several which are locally rare, notably the Lesser Water Plantain Baldellia ranunculoides and the Water Sedge, Carex aquatilis. Behind the fen areas, heathland plant communities, which are the only examples of their kind in Central Region, have developed on the raised beach shoreline. One rare species of moth is found here.

1 LOCH TAY NN675375

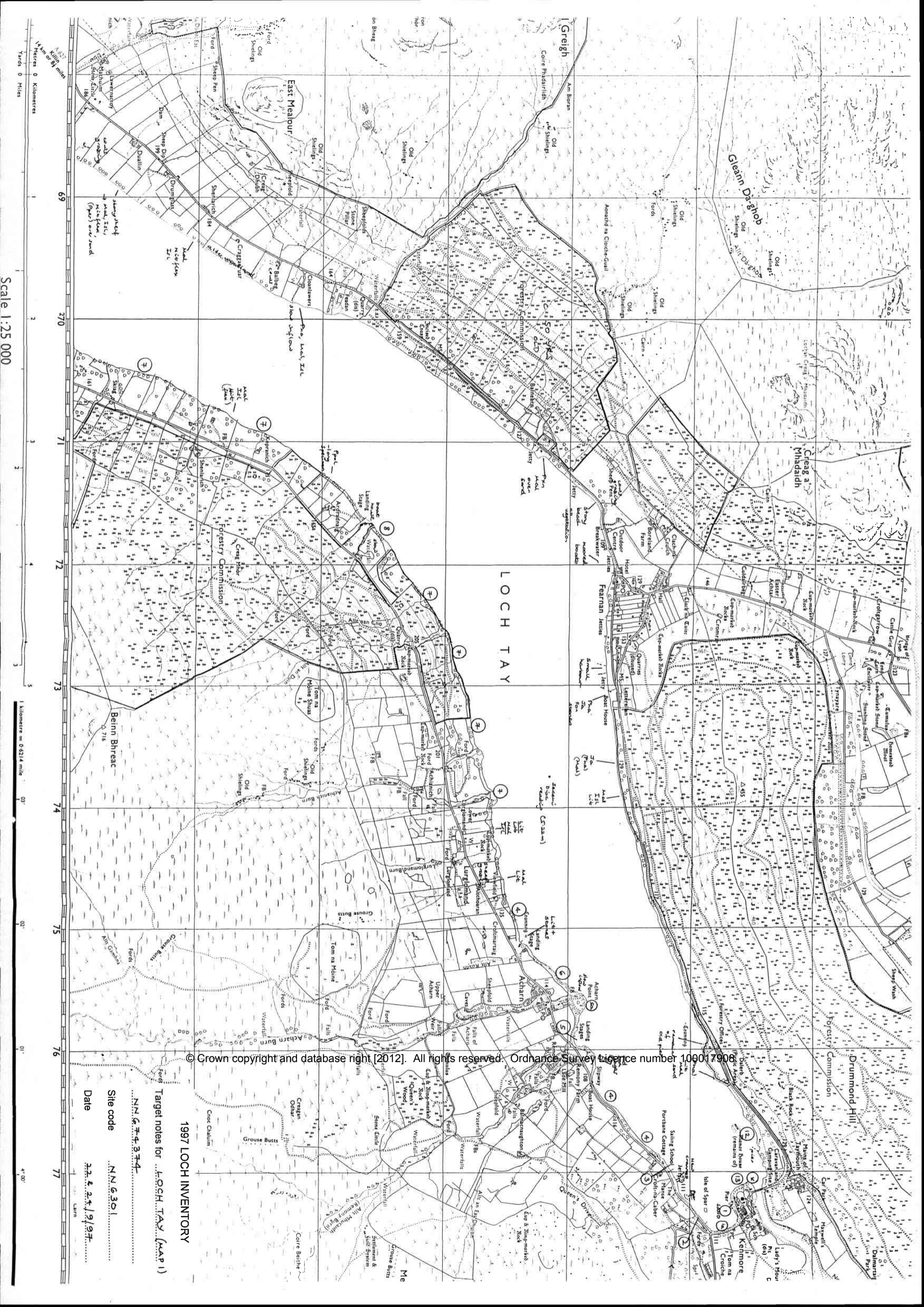
PREVIOUS NOTIFICATIONS:

REMARKS:

A new site.
Area within Perth & Kinross District 23.3 hectares.
Area within Stirling District 42.2 hectares.

DATE: August 1985

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14 Kilometers
Meters 0 Kilometers
Yards 0 Miles

Scale 1:25 000

1 Kilometre = 0.6214 miles

4'00"

69 70 71 72 73 74 75 76 77

1997 LOCH INVENTORY

Target notes for ... LOCH TAY (MAP 1)

NN634374

Site code NN6301

Date 22.2.1997

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LONG 4° 16' W

HEIGHTS IN METRES

61 62 63 64 65 66 67 68 69

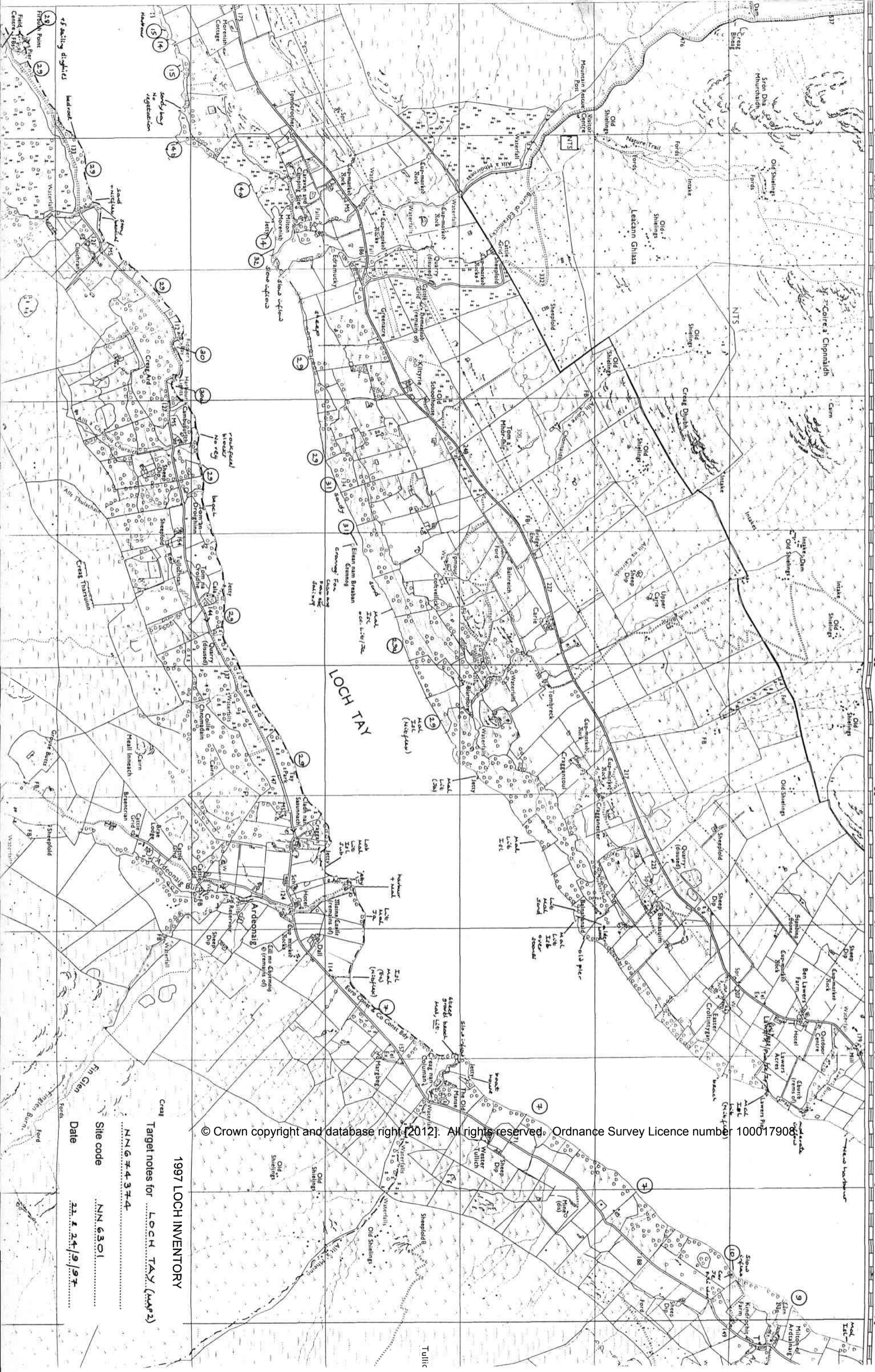
Coire Odhar

NORTH EAST SCOTLAND EURO CONST

422 Feet over sea level

770

TAYSIDE REGION



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1997 LOCH INVENTORY

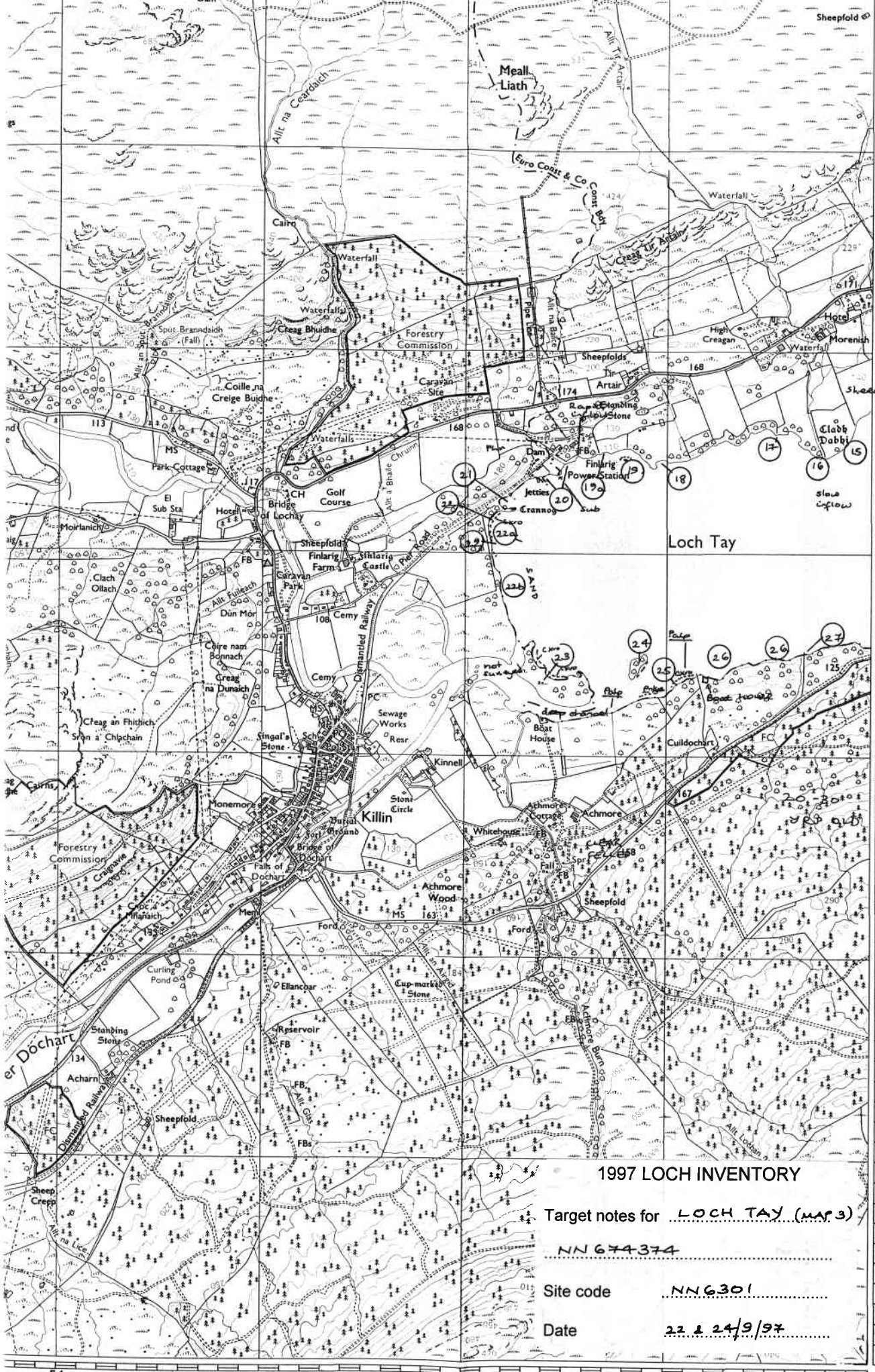
Target notes for LOCH TAY (map 2)

Site code NN 6301

Date 22.8.24/9/97

Site code NN 6301

Date 22.8.24/9/97



EAST SCOTLAND EURO CONST 36
 A827 Lawers 8 km or 5 miles
 NORTH TAYSIDE CO CONST 29
 35
 34
 Ardeonaig 7 km or 4 1/4 miles
 33
 28
 32
 31
 LAT 56° 27'

1997 LOCH INVENTORY

Target notes for LOCH TAY (map 3)
 NN674374
 Site code NN6301
 Date 22 & 24/9/97

(1-13)

N.B. Target notes in clockwise direction in eastern half of loch (and anticlockwise in western sector)

- ① 'Loch Tay Boat Centre' with 1 concrete pier + 2 floating piers at which canoes, motor and rowing boats are moored. Wooded shoreline with Ash, Alder & willows. Shallow water with small stones/gravel & sand + Ja, Ag, Gp, Lit(a), Jb(a), Mal, Rfl, Elp, (Fon), Cap, Pha, Ran rep, Fili ulm.
- Deeper water offshore: Nit flex, Mal, Ppr, Can, Ec over sand.
- ①a Stone/gravel beach with stone slipway. Sparse beach vegetation: Ja, Ckn, Cap, Achi ptar, Poter ans, Leon aut, Veron terp, Equi arr. Waved washed shallows with silt/sand + Lit(a). Moored sailing & motor boats in bay. Isle of spec: boulder stone + Fon.
- ② Wooded loch shore with stones/gravel/bedrock occ Ckn, clamal ag. No vegetation on shallow rocky shelf. Deep water Isl, Mal, Nitella flex + occ Ppr beds.
- ③ Sailing school and reconstructed 'crannog' development with piers and concrete jetties. Wooden clad shoreline with no vegetation in shallow water.
- ④ Exposed wooded shoreline with Alder, Birch, willows ^{Ash} + Des cesp, Fili ulm, Green syl, Pha shallow water stony + Ag, Fon, Ja, occ patches of Lit(a), (Rfl), (Gp) - v. sparse vegetation. A rocky shelf c. 5m wide with FA, boulders & v. occ. (Isl).
- ⑤ Sheltered, wood fringed bay with 3 boats moored. Vegetation grades from orchard stands of Elp, (Ip), Pha to Eqf, Lit(a), Pbe, (Ec), (Ppr) over sand to open water with dense beds of Ppr, Palp, Pbe, Nit flex, Mal, Lit over sand/silt.
- ⑤a Western end of bay ⑤ with Lit(a), Mal, FA occ. Ppr and gravel beach + Equi arr.
- ⑥ Banks with open woodland: Salix sp., Ja, Alnus glut, Vp, Fili ulm, Molin can, Cap, Achi ptar, Rfl, (Pop), (Crd), Ckn, Cent nig, Plan lan, Des cesp, Leon aut, Galium bar, with occ. open areas of silt with limited veg. cover. Shallow water: stony + Lit(a), Isl, Mal, FA, Ja, Ag, Fon gently shelving.
- ⑦ Wooded shoreline as ④. Shallow water with no veg on stony grading to a shelf c. 3m offshore with Mal, Isl. Deep water = no vegetation.
- ⑧ Narrow woodland strip backed by unimproved pasture. Water as ⑦. Highland cattle on silt beach.
- ⑨ Edge as ⑦. Shallow water: Lit, Ja, Rfl, Ckn, (Glf), Ag. Deep water: Isl, Mal.
- ⑩ Small bay with moored rowing boat. Algae on water surface + Elp, Ckn, Ja, Pop, Glf, Plan maj, Ec, (Cap), (Pha), Je, Pn. Ph Cxro Cxv along shore. Open water with sand and stones + Mal, Lit, Rfl, Ag.

TARGET NOTES CONTINUED

- (11) Mixed woodland along boulder shoreline with occ. Ja. Shallow water with no aquatic vegetation grading to Mal, Lit, Fol over sand in deeper water.
- (12) By 'Manar Lough' island: Lit(a) lawns + Mal, Lob, (Isl), (Pper), (Ec)
- (13) Stony peninsula with occ. Lit(a) in shallows.
- (14) Morenish holiday park harbour with numerous fishing boats and sailing boats moored + Cal, Mal. The harbour serves a large holiday chalet complex.
- (14a) Wooded shoreline with Quercus robur, Alnus glutinosa, Frax excelsa, Betula sp. shallow water with nit and stones on a broad unvegetated silt 3-5m wide. Deeper water Isl, Mal, (Nitella translucens), Lit(a), (Lob).
- (14b) Rocky loch edge with sheer bedrock occ. shallow bank also with sand. occ. areas with small stones + Rfl, Agg, (Cap), drowned marina car, Ckn, Lean aut, Fili umv, Descl cap, Pop, Vp, Ja, Gp, (Cxd), Lit(a), (Fon).
- (15) Sandy shallow bay: Lit(a), Lob, sub, Mal. ± Isl.
- (16) Sand around inflow + Ja, Ckn, (G4f), Gp, Cxd, Jb(a), Lean aut, Lit, Rfl, (Jb(a)). Shallows with densely vegetated sand: (Nit flex), Mal, Isl, Lit.
- (17) Gravel beach: Gp, Ckn, Ja, Jac, Fili umv, Poten ans, Myd, Rfl, Cap, Msc, Ip.
Shallow water: Lit, Lob, Mal, Jb(a), Bar, Egff, Agg, (Apr), (G4f) [Palp washed up] Gp, Eip, Ckn, cap, kyp.
- (18) Wooded loch bank: Alnus glutinosa, Salix sp, Frax excelsa, Lean aut, Poten ans, Descl cap.
Loch edge: Ja, Ckn, (Ip), cap, Achille pta, Rfl, Jac, Gp, Agg, (G4f), Vale off.
Shallow water gently shelving + stones Lit → Lit, Mal, Lob, Jb(a).
- (19) Stand of Phr with understorey of Lit, Lob, Mal over sand. (19a) as (19) + Bar and Phr
- (20) Small Cxro stands + Jac with sandy substrate offshore + Mal, Bar, Lit, FA.
- (20a) By inflow: Eip, Rfl, cap, Ckn, Phr, Elac, G4f, Cxro, Scirpus sylv, Ja.
offshore: Sand + Ja, sparse Lit(a) beds, Mal, Lob, sub.
- (21) Sheltered bay with stands of emergent vegetation: Cxro, Egff, Eip, Menla sp, Msc, Ip, Bar, Gp, FA. Open water: Mal, Bar.
- (22) Cxro stands along edge of shallow sandy bay + FA, sub, Lit(a), Bar, occ. (Egff), (Palp), Jb(a), Mal, Pbe, Pgr, Elac, Uva, G4f grading to Egff. Open water in bay: Lit(a), Jb(a), FA with [Cal] washed up.
- (22a) ± occ. Mal, Lit(a) patches
- (22b) Broad gently shelving sandy substrate in shallow water with occ. Jb(a), Mal, Cal, Lit(a) patches. Further offshore - no vegetation on sand with some areas of exposed substrate banks. Bed fringed by dense Cxro, Rfl, cap, Menla sp, G4f, (Cal), Rfl, Uva, Egff, Bar, Api.

TARGET NOTES CONTINUED.....

(22) continued

There was limited sampling of the bank vegetation at the western end of the loch due to time constraints. Vegetation included: Je, Cxv, GP, Pop, Rfl, Jac, Cap, Ip, Agf, Vs, occ. patches of Alnus glut + patches of Cxv, Descl esp, Je, Pop and flooded wetter areas with Pop, Cxv, Jac, Cxp, Hyd, Ppd.

(23) Alnus/Salix carr on sandy island + Pha. Bays along n.e. shore of island with patches of Elf, Bar, Uva, Jb(a), Lob, Lit, Agf, Egff, Cxv, Pop and Cxv beds + Bar, cap, (Vs), Rfl, Jac, Msec (Pha).
Open shallow water, c. 50 cm deep are sand: Jb(a), Cal, Ppd, occ. Lit patches, FA.
with some areas of deposited leaf litter. Water in this area was stained brown.

(24) Small wooded sandy island (Salix/Betula). Cxv beds along island shore + Egff in deeper water with patches of Spa offshore.

24a River channel: Jka, Mal, Spa. → fine silt in deep water + Palp, Pn, (Spa) beds.

(25) Beds of Cxv, Egff, Lob, FA fringing loch shoreline.

(26) Loch shore with Alnus glut + Cxv, Ja, Agf, Rfl, Lit(a), Cxp, Acacia ptar, Cap, Yg, Fon, heart cut. Neoshore loch shallows a stony shelf with Lit(a) patches, Lob, Mal, Isl over sand grading to deeper water over sand + (FA, Nit flex).

(27) Loch edges as (26). Shallow water rocky with no vegetation. Deeper water: Irl.

(28) Field centre at Firkush Point with deep water harbour (not surveyed for plants).
Beds of Egff in bay south of western jetty. Sandy bay just west of Firkush Point with occ. Cxv, Ja, Phal along shore + Mal, Lit. Deeper water with silt Irl, Mal.

(29) Strip of onshore deciduous woodland backed by coniferous plantation.

Loch edges rocky with shallow unvegetated shelf grading to Mal, Isl as

Loch gradient ^{rapidly declines} to deeper water. (29a as (29) with occ. patches of Lit(a) on fine sediments in shallow.

(30) Small stand of Cxv at head of Firkush Bay. Open water over sand + Mal, Lit.

(30a) Bay with Mal/Lit over sand in loch shallows.

(31) Gently shelving sandy bay backed by deciduous woodland with Lit, Lob, Mal, Irl in shallow water (deepest offshore) + occ. Jb(a).

(32) Shallow water: FA+Lit grading to Irl, Mal in deeper water.

(x) Water sample collection point.