

AI Appendix 10.9: NVC Survey Report for Ness Woods SAC within Dell Estate and Compensatory Areas

September 2024

ash



**Loch Kemp
Storage**
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1. Introduction

1.1 Background

1.1.1 The Applicant, Loch Kemp Storage Ltd, is proposing to construct and operate a new pumped storage hydro scheme and submitted an application for consent to the Scottish Ministers under Section 36 of The Electricity Act 1989 in December 2023 (ECU Reference: ECU00003398).

1.1.2 This Ecology Addendum report has been prepared following the NatureScot consultation response, received 16 August 2024 (Reference: CDM173569), particularly relating to the following points raised by NatureScot:

“Ness Woods Special Area of Conservation (SAC): We agree with the conclusions of the applicant’s shadow Habitats Regulations Appraisal (HRA) that the proposal will adversely affect the integrity of this SAC and we therefore object to this proposal. As impacts on this SAC from a proposal of this nature in this location are unavoidable, the applicant has prepared a case to meet the tests that would be required for you to approve the proposal under the derogation provisions of the Habitat Regulations. We advise that, in our view, the proposed compensatory measures are not yet sufficient, and offer recommendations below to address the shortfall.”

“Case for Derogation Report: In our view, the proposed package of compensatory measures is not yet sufficient to protect the coherence of the UK network, for both qualifying woodland interests. To address this shortfall, we recommend:

- Completing NVC survey work to help clarify whether the proposed woodland habitat creation areas outside the SAC will develop into qualifying woodland habitat
- Identifying opportunities to create or restore an additional approximately 7.3ha of the priority habitat Mixed woodland on base rich soils to SAC standard, in order to off-set the loss of area of this qualifying interest
- Identifying opportunities to create or restore a greater area of western acidic oak woodland to fully off-set the loss of area of this qualifying interest
- Providing further detail, in the proposed Habitat Management Plan, on the proposed measures to deliver herbivore management within and adjacent to the SAC.”

1.1.3 This survey report has been prepared to provide the additional NVC habitat data requested as part of the response.

1.2 The Loch Kemp Storage Scheme

1.2.1 The Loch Kemp Storage Scheme, as shown in **Appendix A, Figure 1**, comprises the construction and operation of a pumped storage hydro scheme with an installed capacity of up to 600 MW, utilising the existing Loch Kemp as the upper storage reservoir and Loch Ness as the lower reservoir. To allow drawdown for storage, Loch Kemp would be raised by approximately 28 m from its existing 177 m AOD elevation to approximately 205 m AOD. Four new saddle dams between 16 and 34 m high and four minor cut off dams would be constructed around Loch Kemp to form the upper reservoir.

- 1.2.2 A new powerhouse would be constructed on the shore of Loch Ness, including an integral tailrace arrangement with fish screens connecting the system to Loch Ness. The scheme would utilise an underground tunnelled waterway system to link between the intake on Loch Kemp and the powerhouse at Loch Ness, with the potential inclusion of two surge shafts (with associated access) on the hilltop between Loch Kemp and Loch Ness.

1.3 Ness Woods SAC

- 1.3.1 Ness Woods SAC is composed of three areas of woodland running alongside and to the south of Loch Ness. It contains a mixture of woodland habitats and these, together with several watercourses that run through the site, provide suitable habitat for otters. This complex of sites includes one of the best and most extensive examples of a ravine woodland in Scotland at Glen Tarff; further examples occur along the north-facing shores of Loch Ness. The canopy is a mixture of alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*) and wych elm (*Ulmus glabra*) with a locally abundant hazel (*Corylus avellana*) shrub layer. The ground flora is rich in ferns, mosses and herbaceous plants, and the woods have a luxuriant epiphytic flora of lichens, liverworts and mosses with Atlantic affinities.

- 1.3.2 The site supports 25 ha of mixed woodland on base rich soils associated with rocky slopes; and 538 ha of western acidic oak woodland. Both qualifying woodland features are in an unfavourable condition (no change) (last updated in 2008). Otter (*Lutra lutra*) is in an unfavourable condition (declining) (last updated in 2011), although the Conservation Advice Package identifies that the level of confidence in the otter survey results are low due to difficult survey conditions and no access to one of the areas where otter signs were previously found. The Conservation Advice Package states that management of 'Tilio-Acerion forests of slopes, screes and ravines' should have priority over the other features of the site given its status as a Habitats Directive priority habitat.

1.4 Scope of this Report

- 1.4.1 Orrin Ecology were commissioned to carry out National Vegetation Classification (NVC) survey of the remaining area of Ness Woods SAC, within Dell Estate, out with the Site Boundary and eight compartments adjacent to the SAC, which are proposed as potential compensatory areas for the permanent loss of qualifying woodland habitat within the Ness Woods SAC. Surveys were undertaken in September 2023 on behalf of ASH Design and Assessment Ltd (ASH), the Applicant's appointed environmental consultant.

- 1.4.2 The objectives of the survey were as follows:

- To provide baseline information on the location, extent and floristics of the existing vegetation; and
- To produce an annotated vegetation map using the Phase 1 and NVC classification to identify and map the habitats. This is supported by habitat descriptions, detailed vegetation community (NVC) data and target notes.

2. Methodology

2.1 NVC Survey

- 2.1.1 Orrin Ecology were commissioned to carry out NVC survey of the remaining area of Ness Woods SAC within the Dell Estate on 06 – 10 and 13 – 14 September 2023 on behalf of ASH Design and Assessment Ltd (ASH), the Applicant’s appointed environmental consultant.
- 2.1.2 The vegetation was described and mapped following the methods described in National Vegetation Classification user’s handbook¹ and the Joint Nature Conservation Committee (JNCC) Handbook for Phase 1 Habitat Surveys². Plant species were identified and habitat types assigned and mapped in the field. Mapping polygons were delineated based on the composition of habitats. Polygons were laterally assigned a Phase 1 Habitat Classification, according to the relationships described in Phase One Habitat Classification. For the purposes of creating a visual representation of habitat types, the dominant Phase One Habitat Classification or NVC habitat for each polygon is reflected. Phase 1 and NVC habitat maps were digitised, with figures provided in **Appendix A, Figure 2: Ness Woods SAC Habitats – Phase 1; Figure 3: Ness Woods SAC Habitats - NVC** and the corresponding qualifying SAC habitats in **Figure 4: SAC Qualifying Habitats**. Surveys were undertaken by Helen Chance MCIEEM.
- 2.1.3 More widely, target notes were also collected to provide an overview of the habitat types present and features of interest. All target notes are accompanied by at least one photograph, provided in **Appendix B: Target Notes**.
- 2.1.4 Following the field survey, the conservation status of each habitat recorded was identified based on the following:
- Annex I habitats listed on the EC Habitats Directive, as translated into British and Scottish law by The Conservation (Natural Habitats, &c.) Regulations 1994 and subsequent legislation;
 - UK Biodiversity Action Plan (UKBAP) priority habitats. Although superseded by the UK Post-2010 Biodiversity Framework in 2012, the UKBAP remains a useful resource for assessing UK conservation status and informs regional conservation priorities;
 - Scottish Biodiversity List (SBL) priority habitats for conservation;
 - Plant species of national significance (as defined below) where present, were recorded as target notes: Higher plant species of Lower plants (bryophytes) listed as Critically Endangered (CR), Endangered (EN) or Vulnerable (VU), on the respective red data lists for Great Britain as based on International Union for Conservation of Nature (IUCN) criteria;
 - a. Nationally rare (NR) – occurring in 15 hectares or fewer in Great Britain;
 - b. Nationally scarce (NS) – occurring in 16-100 hectares in Great Britain; and
 - c. UK Biodiversity Action Plan (UKBAP) priority species.

¹ Rodwell, J. S. (2006) NVC Users’ Handbook. ISBN 978 1 86107 574 1

- 2.1.5 Any wetland habitats were evaluated in terms of their potential to be groundwater-dependent terrestrial ecosystems (GWDTEs). This was done based on the hydrogeological setting of each habitat community identified, and with reference to SEPA guidance³ modified from the United Kingdom Technical Advisory Group (UKTAG) list of National Vegetation Classification (NVC) communities and associated groundwater dependency scores. Nomenclature for vascular plants follows Stace⁴, bryophytes and liverworts follow Atherton et al⁵ and for lichens Dobson⁶.

2.2 Survey Limitations

- 2.2.1 The following survey limitations were encountered during the course of field survey work for habitats:
- Surveys were undertaken in early September, late in the survey season for woodland habitat types. The requirement for survey was driven by the need to gather additional survey data to inform compensatory measures and built on the existing NVC survey data gathered in summer 2021. Some early flowering species may not have been apparent at the time of survey, but it was still possible to identify the indicator species for habitat communities and qualifying SAC habitats.
 - Common and indicator species were noted where encountered but this survey does not constitute a full lichen and bryophyte survey. Detailed bryophyte and lichen surveys were undertaken within the Site Boundary and are reported on in Volume 4, Appendix 10.2 and 10.3 of the Loch Kemp Storage Scheme EIA Report.
 - In areas of broadleaved woodland above Loch Ness, dense and tall Bracken *Pteridium aquilinum* cover and precipitous cliffs and ledges prevented access to all areas for full botanical survey. Where these constraints occurred, areas were viewed from vantage points from either below or above. This was sufficient to attribute habitat communities, but may have led to some plant species been missed in localised areas.

³ SEPA (2017) Guidance Note 31: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Terrestrial Ecosystems. Version 3

⁴ Stace, C. A. (2019) New Flora of the British Isles, 4th edition. C&M Floristics.

⁵ Atherton, I., Bosanquet, S. Lawley, M. (2010) Mosses and Liverworts of Britain and Ireland: A Field Guide. British Bryological Society.

⁶ Dobson, F. S. (2011) Lichens: An Illustrated Guide to the British and Irish Species, 6th edition. The Richmond Publishing Co. Ltd. Slough

3. Survey Results

3.1 Habitat Descriptions

- 3.1.1 The habitats recorded within the remaining areas of SAC within Dell estate and the 8 compartments adjacent to the SAC were largely similar to the areas within the Site Boundary. Habitat descriptions are provided below and are mapped in **Appendix A, Figure 2: Ness Woods SAC Habitats**.

Woodland and Scrub

- 3.1.2 The Ness Woods SAC comprises broadleaved woodland rising from the shores of Loch Ness to between 200 – 250 m above sea level. Downy birch (*Betula pubescens*) is the most common tree species within the SAC woodland within Dell Estate. The trees are mature, including veteran trees and usually have good lichen coverage. Within the birch, there are also stands of mature old-growth hazel (*Corylus avellana*) which also had significant lichen assemblages.
- 3.1.3 On lower slopes along Loch Ness shore, ash (*Fraxinus excelsior*), alder (*Alnus glutinosa*) and goat willow (*Salix caprea*) are more prevalent in the canopy. These areas also have a diverse ground flora, with wood sorrel (*Oxalis acetosella*), dog violet (*Viola riviniana*), primrose (*Primula vulgaris*), tufted hair-grass (*Deschampsia cespitosa*), false brome (*Brachypodium sylvaticum*), common nettle (*Urtica dioica*) and yellow pimpernel (*Lysimachia nemorum*) frequent in the sward. Ferns found associated with this habitat include lady fern (*Athyrium filix-femina*), scaly male-fern (*Dryopteris affinis* agg.) and broad buckler-fern (*Dryopteris dilatata*). Occasionally wood avens (*Geum urbanum*) and marsh hawk's-beard (*Crepis paludosa*) are present, particularly in damper, sheltered areas below crags and rock overhangs. This woodland type reflects **W9 Fraxinus excelsior-Sorbus aucuparia-Mercurialis perennis woodland** and is largely limited to a band along Loch Ness shore.
- 3.1.4 As the slopes of the SAC rise toward the open ground, the ground flora becomes dominated by bracken (*Pteridium aquilinum*) with a few small areas of grassy understorey. Bracken forms an almost continuous layer beneath generally widely spaced tree cover, but on occasion stands of common bent (*Agrostis capillaris*), creeping soft-grass (*Holcus mollis*) and sweet vernal-grass (*Anthoxanthum odoratum*) form beneath canopy cover and at the fringes of bracken stands. Wood sorrel, tormentil (*Potentilla erecta*), bramble (*Rubus fruticosus* agg.), dog violet (*Viola riviniana*) and wood sage (*Teucrium scorodonia*) are scattered throughout. This woodland component reflects **W11a Quercus petraea-Betula pubescens-Oxalis acetosella woodland Dryopteris dilatata sub-community**.
- 3.1.5 On steeper ground, and rockier outcrops within the woodland the understorey is generally species-poor and the canopy almost entirely dominated by downy birch. Occasional holly (*Ilex aquifolium*), rowan (*Sorbus aucuparia*) and hazel are present in gullies and on crags. This woodland type reflects **W17 Quercus petraea-Betula pubescens-Dicranum majus woodland** and is more typical of more acidic or peaty soil substrates. This community is also the principal type of small fragments of woodland that are scattered along the edge of the SAC boundary.
- 3.1.6 Areas of broadleaved woodland are considered to be in poor condition, with the canopy dominated by mature trees and negligible cover of young or regenerating saplings. Bracken is almost universally dominant across large areas in the understorey and is considered to limit the potential for tree regeneration. Moderate to high levels of tree browsing are also evident, particularly on hazel trees, likely impacted by deer and goat populations present within the woodlands.

- 3.1.7 Other woodland stands are typically scattered or individual trees. Very rarely there are stands of eared willow (*Salix aurita*) in wetter flushed ground, which are derived from **W1 *Salix cinerea-Galium palustre* woodland**. Conifer woodland is absent from the SAC, however a small area of conifer plantation woodland is found in Compartment 8, connected to the Forestry and Land Scotland (FLS) commercial plantation to the north of the Estate Boundary.
- 3.1.8 Scrub habitats across the site are extensive, and almost always dominated by **U20 *Pteridium aquilinum-Galium saxatile* community**. This community comprises stands of bracken, and can have grassy, heathy or absent ground flora beneath the fronds of bracken. In stands of bracken along Loch Ness, bramble is occasionally present along with wood sage and grass species. This bracken community reflects **W25 *Pteridium aquilinum-Rubus fruticosus underscrub***, and is generally transitional to **U20a *Anthoxanthum odoratum* sub-community**.

Heaths and Mires

- 3.1.9 As the SAC rises away from Loch Ness, on drier knolls and rocky outcrops trees become scarce and dry heath is found. Bell heather (*Erica cinerea*) is found frequently in these stands, characteristic of **H10a *Calluna vulgaris-Erica cinerea* dry heath, typical sub-community**. Bracken is commonly found scattered throughout areas of dry heath, but where soils become shallow on the drier knolls around Meall nan Aidhean, Creag a' Ghiubhans and west of Lochan Scristan, bracken is lost from the sward and ling heather (*Calluna vulgaris*) becomes more frequent amongst the bell heather, with *Cladonia* spp. lichens found beneath the heather canopy.
- 3.1.10 Wet heath is absent from the SAC within Dell Estate, however small patches are found close to Dearg Lochain, adjacent to the conifer plantation north of the Survey Area, within Compartment 7. The habitat is typical of **M15b *Trichophorum germanicum-Erica tetralix* wet heath, typical sub-community**, with abundant bog myrtle (*Myrica gale*) and scattered conifer saplings from the adjacent conifer plantation. Two other small areas of wet heath are found in Compartments 1 and 2.
- 3.1.11 Small patches of blanket bog and wet modified bog habitat was found on flat ground within the SAC boundary west of Lochan Scristan and north-east of Creag a' Ghiubhans. The patches were relatively small and were either **M17 *Trichophorum germanicum-Eriophorum vaginatum* blanket mire** and **M20 *Eriophorum vaginatum* mire**, often transitioning between the two habitats. Both habitats have a bryophyte layer of *Sphagna* but lacked any significant bog pools. The areas have been subject to mowing and drainage.

Acid grassland

- 3.1.12 A small area of acid grassland characteristic of U4 *Festuca ovina-Agrodis capillaris-Galium saxatile* grassland is found within Compartment 2, derived from management of bracken stand that has been regularly mown.

Invasive non-native plant species

- 3.1.13 No invasive non-native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended in Scotland) were recorded within the survey area.

3.2 Annex 1 and Qualifying SAC Habitats

3.2.1 Annex 1 Habitats identified during the surveys are listed in **Table 3.1**, along with the conservation status of the habitat and its groundwater dependency based on their NVC habitat community and hydrogeological setting, with reference to the associated groundwater dependency scores published in the current SEPA guidance⁷.

Table 3.1: Annex 1 and Qualifying SAC Habitats

Habitat Type	Conservation Status*	Groundwater Dependency
Broadleaved Woodland		
W9 <i>Fraxinus excelsior</i> - <i>Sorbus aucuparia</i> - <i>Mercurialis perennis</i> woodland	<i>Tilio-Acerion</i> forests of slopes, screes and ravines; Upland mixed ashwoods	Low
W11a <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Oxalis acetosella</i> woodland <i>Dryopteris dilatata</i> sub-community	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in Britain and Ireland; Upland oakwood	Low
W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in Britain and Ireland; Upland oakwood	Low
Scrub		
W1x <i>Salix cinerea</i> - <i>Galium palustre</i> woodland, <i>Salix aurita</i> upland variant	Wet woodland	Moderate
Scattered Trees		
W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in Britain and Ireland; Upland oakwood	Low
Dry Heath		
H10 <i>Calluna vulgaris</i> - <i>Erica cinerea</i> heath	European dry heaths; Upland heathland	Low
Wet heath		

⁷ SEPA (2017) Guidance Note 31: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Terrestrial Ecosystems. Version 3

M15 <i>Trichophorum germanicum-Erica tetralix</i> wet heath	Northern Atlantic wet heaths with <i>Erica tetralix</i> ; Upland heathland	Moderate
Blanket Bog		
M17 <i>Trichophorum germanicum-Eriophorum vaginatum</i> blanket mire	Blanket bog; Blanket bog	Peatland
Wet Modified Bog		
M20b <i>Eriophorum vaginatum</i> blanket mire <i>Calluna vulgaris-Cladonia</i> sub-community		Peatland
* Conservation Status: Red text – Annex I habitat under EC Habitats Directive (as translated into UK legislation); Black text – Scottish Biodiversity List / UK Biodiversity Action Plan Priority Habitat		

3.3 Compartments for Possible Incorporation into SAC

3.3.1 NVC habitat communities recorded in each compartment for possible incorporation into the SAC are listed in **Table 3.2** below.

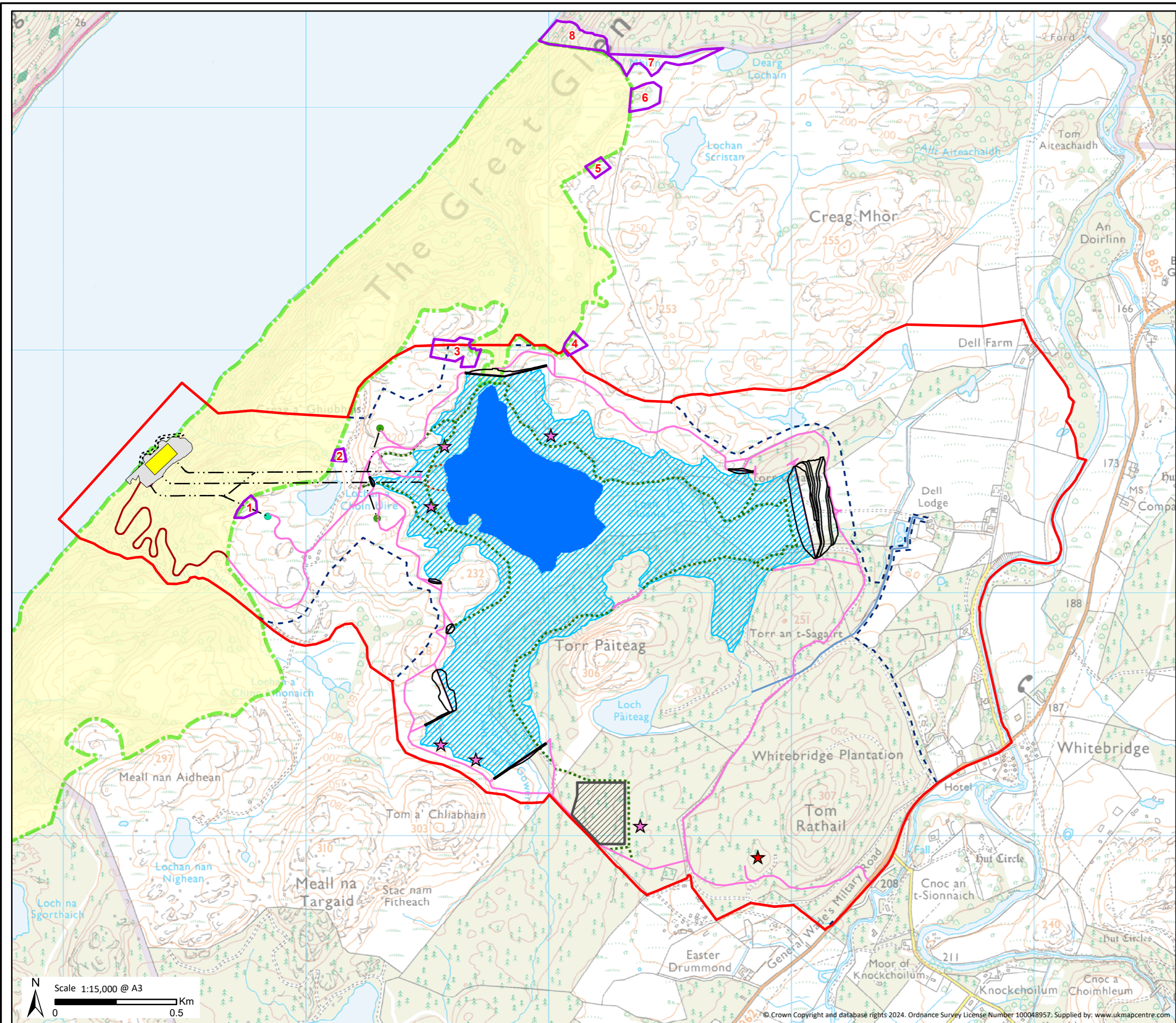
Table 3.2: Compartments for Possible Incorporation into the SAC, Habitats

Habitat Type	Conservation Status*	Groundwater Dependency
Compartment 1		
Bracken U20 <i>Pteridium aquilinum-Galium saxatile</i>		Low
Dry heath H10 <i>Calluna vulgaris-Erica cinerea</i> heath	European dry heaths; Upland heathland	Low
Scattered trees W17 <i>Quercus petraea-Betula pubescens-Dicranum majus</i> woodland	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in Britain and Ireland; Upland oakwood	Low
M15 <i>Trichophorum germanicum-Erica tetralix</i> wet heath	Northern Atlantic wet heaths with <i>Erica tetralix</i> ; Upland heathland	Moderate
Compartment 2		
Bracken U20 <i>Pteridium aquilinum-Galium saxatile</i>		Low
Acid grassland U4 <i>Festuca-ovina-Agrostis capillaris-Galium saxatile</i> grassland		Low
M15 <i>Trichophorum germanicum-Erica tetralix</i> wet heath	Northern Atlantic wet heaths with <i>Erica tetralix</i> ; Upland heathland	Moderate
Compartment 3		

Broadleaved woodland W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in Britain and Ireland; Upland oakwood	Low
Bracken U20 <i>Pteridium aquilinum</i> - <i>Galium saxatile</i>		Low
Dry heath H10 <i>Calluna vulgaris</i> - <i>Erica cinerea</i> heath	European dry heaths; Upland heathland	Low
Wet modified bog M20b <i>Eriophorum vaginatum</i> blanket mire <i>Calluna vulgaris</i> - <i>Cladonia</i> sub-community		Peatland
Blanket bog M17 <i>Trichophorum germanicum</i> - <i>Eriophorum vaginatum</i> blanket mire	Blanket bog; Blanket bog	Peatland
Compartment 4		
Broadleaved woodland W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in Britain and Ireland; Upland oakwood	Low
Bracken U20 <i>Pteridium aquilinum</i> - <i>Galium saxatile</i>		Low
Dry heath H10 <i>Calluna vulgaris</i> - <i>Erica cinerea</i> heath	European dry heaths; Upland heathland	Low
Blanket bog M17 <i>Trichophorum germanicum</i> - <i>Eriophorum vaginatum</i> blanket mire	Blanket bog; Blanket bog	Peatland
Compartment 5		
Dry heath H10 <i>Calluna vulgaris</i> - <i>Erica cinerea</i> heath	European dry heaths; Upland heathland	Low
Scattered trees W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in Britain and Ireland; Upland oakwood	Low
Compartment 6		
Broadleaved woodland W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in Britain and Ireland; Upland oakwood	Low
Dry heath H10 <i>Calluna vulgaris</i> - <i>Erica cinerea</i> heath	European dry heaths; Upland heathland	Low
Scattered trees W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in Britain and Ireland; Upland oakwood	Low
Compartment 7		
Broadleaved woodland W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in Britain and Ireland; Upland oakwood	Low

Wet heath M15 <i>Trichophorum germanicum</i> - <i>Erica tetralix</i> heath	Northern Atlantic wet heaths with <i>Erica tetralix</i> ; Upland heathland	Moderate
Dry heath H10 <i>Calluna vulgaris</i> - <i>Erica cinerea</i> heath	European dry heaths; Upland heathland	Low
Compartment 8		
Broadleaved woodland W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland	Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in Britain and Ireland; Upland oakwood	Low
W9 <i>Fraxinus excelsior</i> - <i>Sorbus aucuparia</i> - <i>Mercurialis perennis</i> woodland	<i>Tilio-Acerion</i> forests of slopes, screes and ravines; Upland mixed ashwoods	Low
Conifer plantation woodland		Low
Dry heath H10 <i>Calluna vulgaris</i> - <i>Erica cinerea</i> heath	European dry heaths; Upland heathland	Low
Bracken U20 <i>Pteridium aquilinum</i> - <i>Galium saxatile</i>		Low
* Conservation Status: Red text – Annex I habitat under EC Habitats Directive (as translated into UK legislation); Black text – Scottish Biodiversity List / UK Biodiversity Action Plan Priority Habitat		

Appendix A: Figures



Key

- Site Boundary
- Ness Woods SAC / Easter Ness Forest SSSI
- Woodland for Possible Incorporation into the SAC
- Development Area
- Loch Kemp Surface Area (Existing)
- Maximum Inundation Area (Upper Reservoir)
- Powerhouse Building
- Powerhouse Platform, Quayside and Pier
- Revised Main Welfare Compound
- Underground Tunnel
- Dam
- Temporary Cofferdam
- Construction and Operational Access Track (8m Wide Running Surface, Reinstated to 4m where feasible)
- Construction and Operational Access Track within SAC
- Temporary Construction Access Track (8m Wide Running Surface)
- New Estate Water Supply
- Inlet/Outlet Excavation
- Surge Shaft
- Cable Shaft
- Access Tunnel Adit
- ★ Proposed Borrow Pit
- ★ Potential Borrow Pit

**Loch Kemp
Pumped Storage Scheme**

**Figure 1
Site Location**

Drawn by: HC Date: 16/09/2024
 Drawing: LKS_D_05_001A

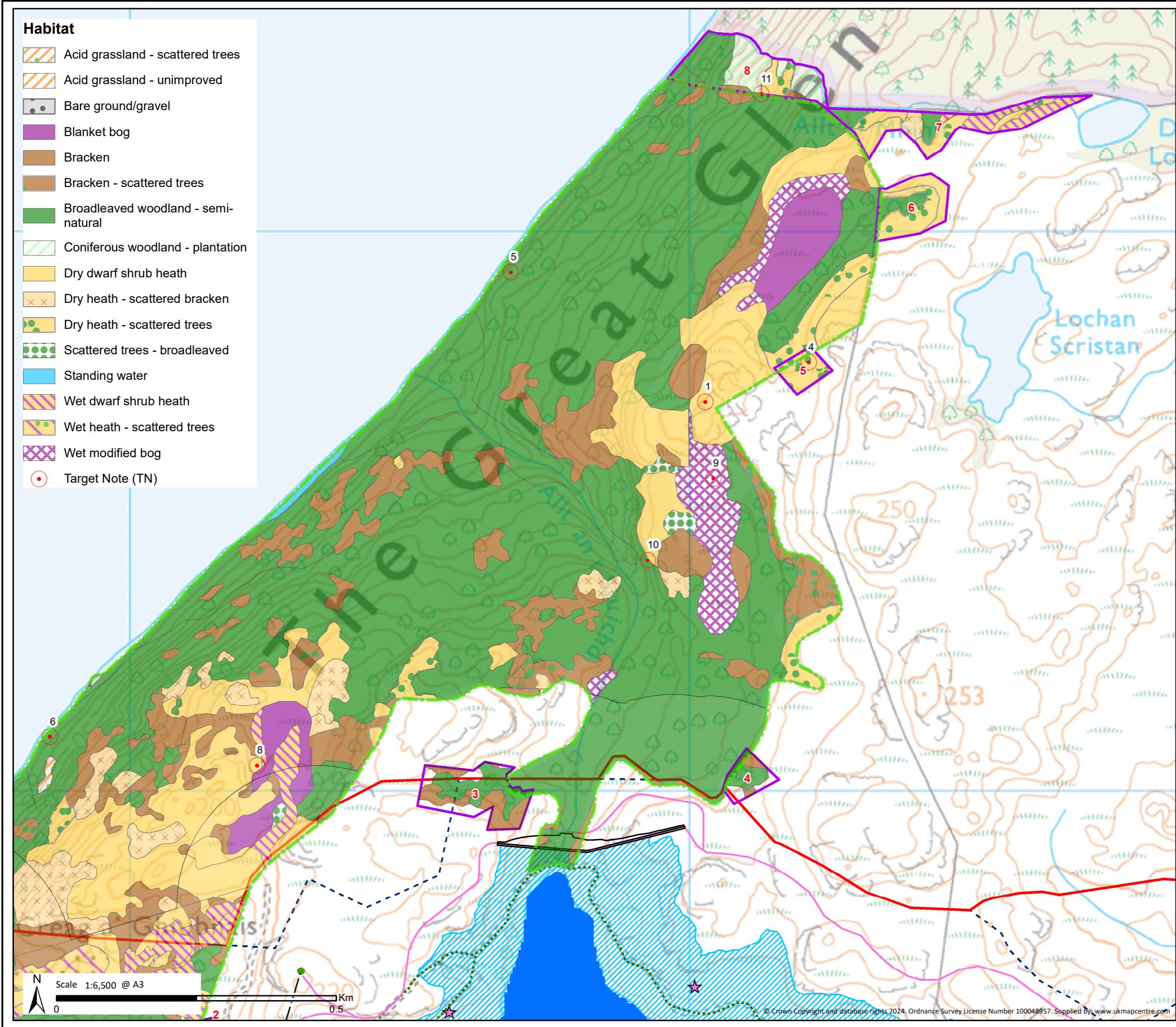


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Scale 1:15,000 @ A3
 0 0.5 Km

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- Habitat**
- Acid grassland - scattered trees
 - Acid grassland - unimproved
 - Bare ground/gravel
 - Blanket bog
 - Bracken
 - Bracken - scattered trees
 - Broadleaved woodland - semi-natural
 - Coniferous woodland - plantation
 - Dry dwarf shrub heath
 - Dry heath - scattered bracken
 - Dry heath - scattered trees
 - Scattered trees - broadleaved
 - Standing water
 - Wet dwarf shrub heath
 - Wet heath - scattered trees
 - Wet modified bog
 - Target Note (TN)

- Key**
- Site Boundary
 - Ness Woods SAC / Easter Ness Forest SSSI
 - Woodland for Possible Incorporation into the SAC
 - Development Area
 - Loch Kemp Surface Area (Existing)
 - Maximum Inundation Area (Upper Reservoir)
 - Powerhouse Building
 - Powerhouse Platform, Quayside and Pier
 - Revised Main Welfare Compound
 - Underground Tunnel
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 - Construction and Operational Access Track (8m Wide Running Surface, Reinstated to 4m where feasible)
 - Construction and Operational Access Track within SAC
 - Temporary Construction Access Track (8m Wide Running Surface)
 - New Estate Water Supply
 - Inlet/Outlet Excavation
 - Surge Shaft
 - Cable Shaft
 - Access Tunnel Adit
 - Proposed Borrow Pit
 - Potential Borrow Pit

N
Scale 1:6,500 @ A3
0 0.5 Km

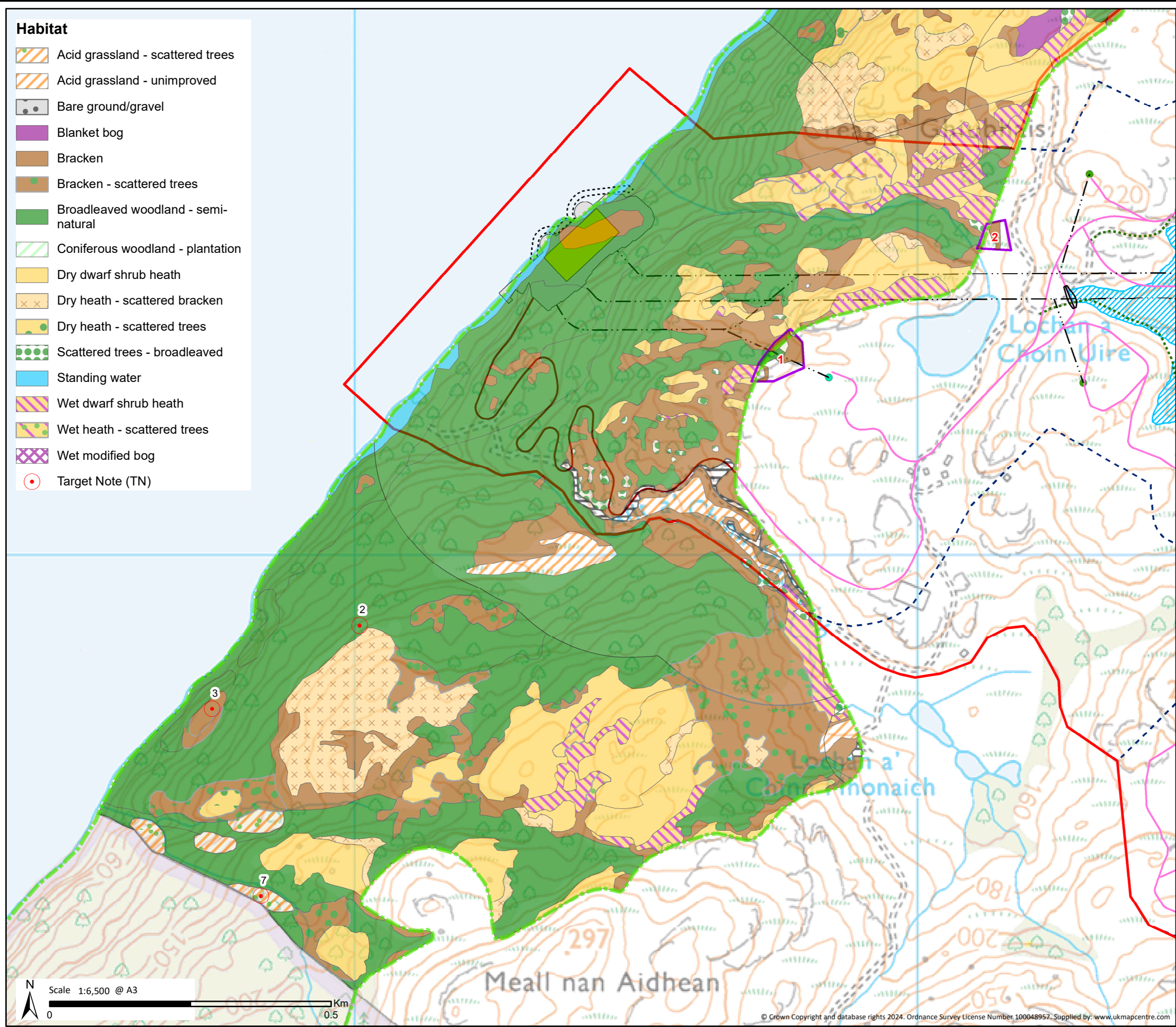
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**Loch Kemp
Pumped Storage Scheme**

**Figure 2a
Ness Woods SAC Habitats
Phase 1**

Drawn by: HC Date: 16/09/2024
Drawing: LKS_D_05_002A





- Habitat**
- Acid grassland - scattered trees
 - Acid grassland - unimproved
 - Bare ground/gravel
 - Blanket bog
 - Bracken
 - Bracken - scattered trees
 - Broadleaved woodland - semi-natural
 - Coniferous woodland - plantation
 - Dry dwarf shrub heath
 - Dry heath - scattered bracken
 - Dry heath - scattered trees
 - Scattered trees - broadleaved
 - Standing water
 - Wet dwarf shrub heath
 - Wet heath - scattered trees
 - Wet modified bog
 - Target Note (TN)

- Key**
- Site Boundary
 - Ness Woods SAC / Easter Ness Forest SSSI
 - Woodland for Possible Incorporation into the SAC
 - Development Area
 - Loch Kemp Surface Area (Existing)
 - Maximum Inundation Area (Upper Reservoir)
 - Powerhouse Building
 - Powerhouse Platform, Quayside and Pier
 - Revised Main Welfare Compound
 - Underground Tunnel
 - Dam
 - Temporary Cofferdam
 - Construction and Operational Access Track (8m Wide Running Surface, Reinstated to 4m where feasible)
 - Construction and Operational Access Track within SAC
 - Temporary Construction Access Track (8m Wide Running Surface)
 - New Estate Water Supply
 - Inlet/Outlet Excavation
 - Surge Shaft
 - Cable Shaft
 - Access Tunnel Adit
 - Proposed Borrow Pit
 - Potential Borrow Pit

Loch Kemp Pumped Storage Scheme

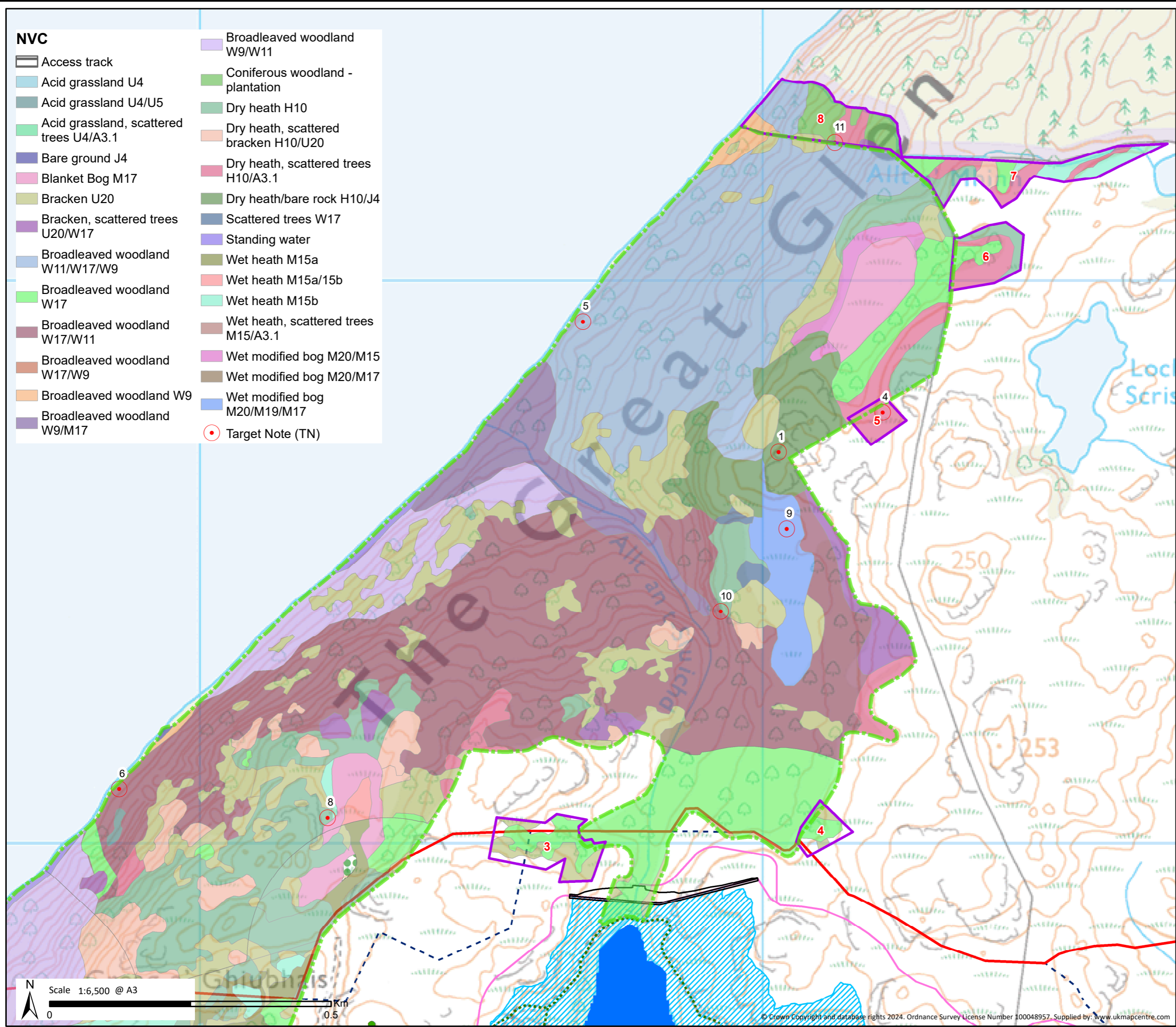
**Figure 2b
Ness Woods SAC Habitats
Phase 1**

Drawn by: HC Date: 16/09/2024
Drawing: LKS_D_05_002B



N
Scale 1:6,500 @ A3
0 Km 0.5

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- NVC**
- Access track
 - Acid grassland U4
 - Acid grassland U4/U5
 - Acid grassland, scattered trees U4/A3.1
 - Bare ground J4
 - Blanket Bog M17
 - Bracken U20
 - Bracken, scattered trees U20/W17
 - Broadleaved woodland W11/W17/W9
 - Broadleaved woodland W17
 - Broadleaved woodland W17/W11
 - Broadleaved woodland W17/W9
 - Broadleaved woodland W9
 - Broadleaved woodland W9/M17
 - Broadleaved woodland W9/W11
 - Coniferous woodland - plantation
 - Dry heath H10
 - Dry heath, scattered bracken H10/U20
 - Dry heath, scattered trees H10/A3.1
 - Dry heath/bare rock H10/J4
 - Scattered trees W17
 - Standing water
 - Wet heath M15a
 - Wet heath M15a/15b
 - Wet heath M15b
 - Wet heath, scattered trees M15/A3.1
 - Wet modified bog M20/M15
 - Wet modified bog M20/M17
 - Wet modified bog M20/M19/M17
 - Target Note (TN)

- Key**
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 - Surge Shaft
 - Cable Shaft
 - Access Tunnel Adit
 - Proposed Borrow Pit
 - Potential Borrow Pit

N
Scale 1:6,500 @ A3
0 0.5 Km

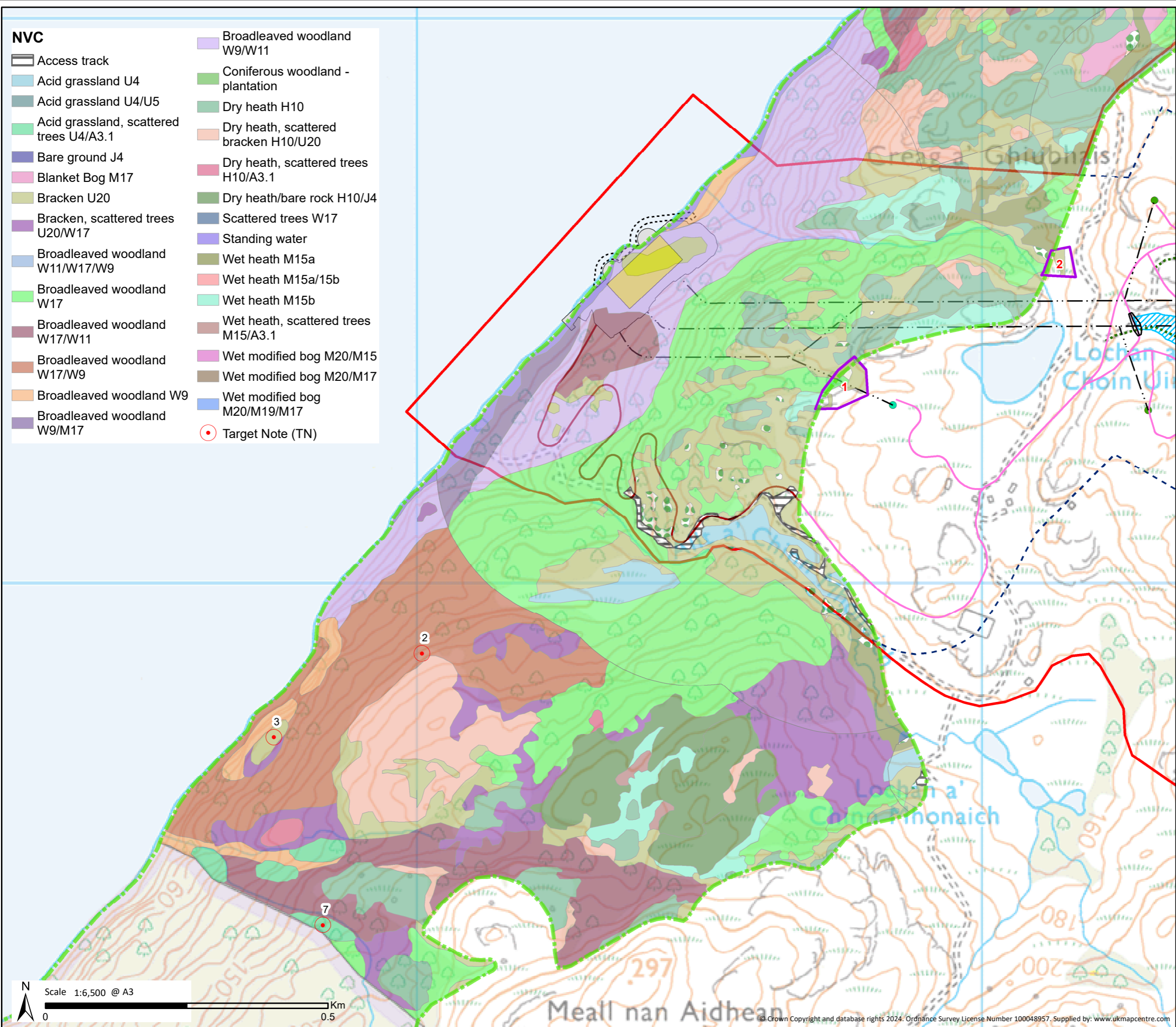
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Loch Kemp Pumped Storage Scheme

**Figure 3a
Ness Woods SAC Habitats NVC**

Drawn by: HC Date: 16/09/2024
Drawing: LKS_D_05_003B





NVC

- Access track
- Acid grassland U4
- Acid grassland U4/U5
- Acid grassland, scattered trees U4/A3.1
- Bare ground J4
- Blanket Bog M17
- Bracken U20
- Bracken, scattered trees U20/W17
- Broadleaved woodland W11/W17/W9
- Broadleaved woodland W17
- Broadleaved woodland W17/W11
- Broadleaved woodland W17/W9
- Broadleaved woodland W9
- Broadleaved woodland W9/M17
- Broadleaved woodland W9/W11
- Coniferous woodland - plantation
- Dry heath H10
- Dry heath, scattered bracken H10/U20
- Dry heath, scattered trees H10/A3.1
- Dry heath/bare rock H10/J4
- Scattered trees W17
- Standing water
- Wet heath M15a
- Wet heath M15a/15b
- Wet heath M15b
- Wet heath, scattered trees M15/A3.1
- Wet modified bog M20/M15
- Wet modified bog M20/M17
- Wet modified bog M20/M19/M17
- Target Note (TN)

Key

- Site Boundary
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- Cable Shaft
- Access Tunnel Adit
- Proposed Borrow Pit
- Potential Borrow Pit

Loch Kemp Pumped Storage Scheme

**Figure 3b
Ness Woods SAC Habitats NVC**

Drawn by: HC Date: 16/09/2024
Drawing: LKS_D_05_003B

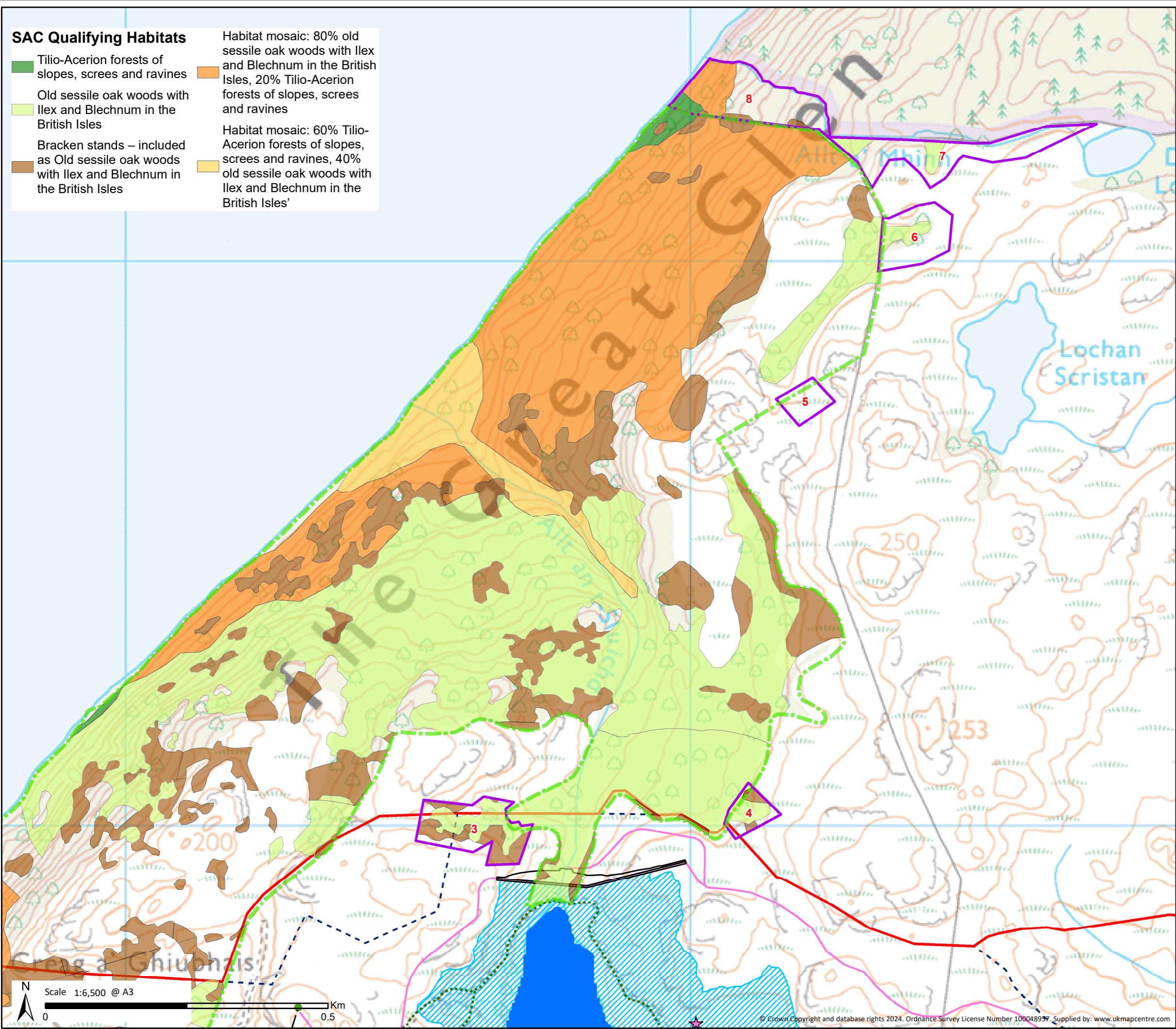


Loch Kemp Storage
A STATERA COMPANY

ash

Scale 1:6,500 @ A3





SAC Qualifying Habitats

- Tilio-Acerion forests of slopes, screes and ravines
- Old sessile oak woods with Ilex and Blechnum in the British Isles
- Bracken stands – included as Old sessile oak woods with Ilex and Blechnum in the British Isles
- Habitat mosaic: 80% old sessile oak woods with Ilex and Blechnum in the British Isles, 20% Tilio-Acerion forests of slopes, screes and ravines
- Habitat mosaic: 60% Tilio-Acerion forests of slopes, screes and ravines, 40% old sessile oak woods with Ilex and Blechnum in the British Isles'

Key

- Site Boundary
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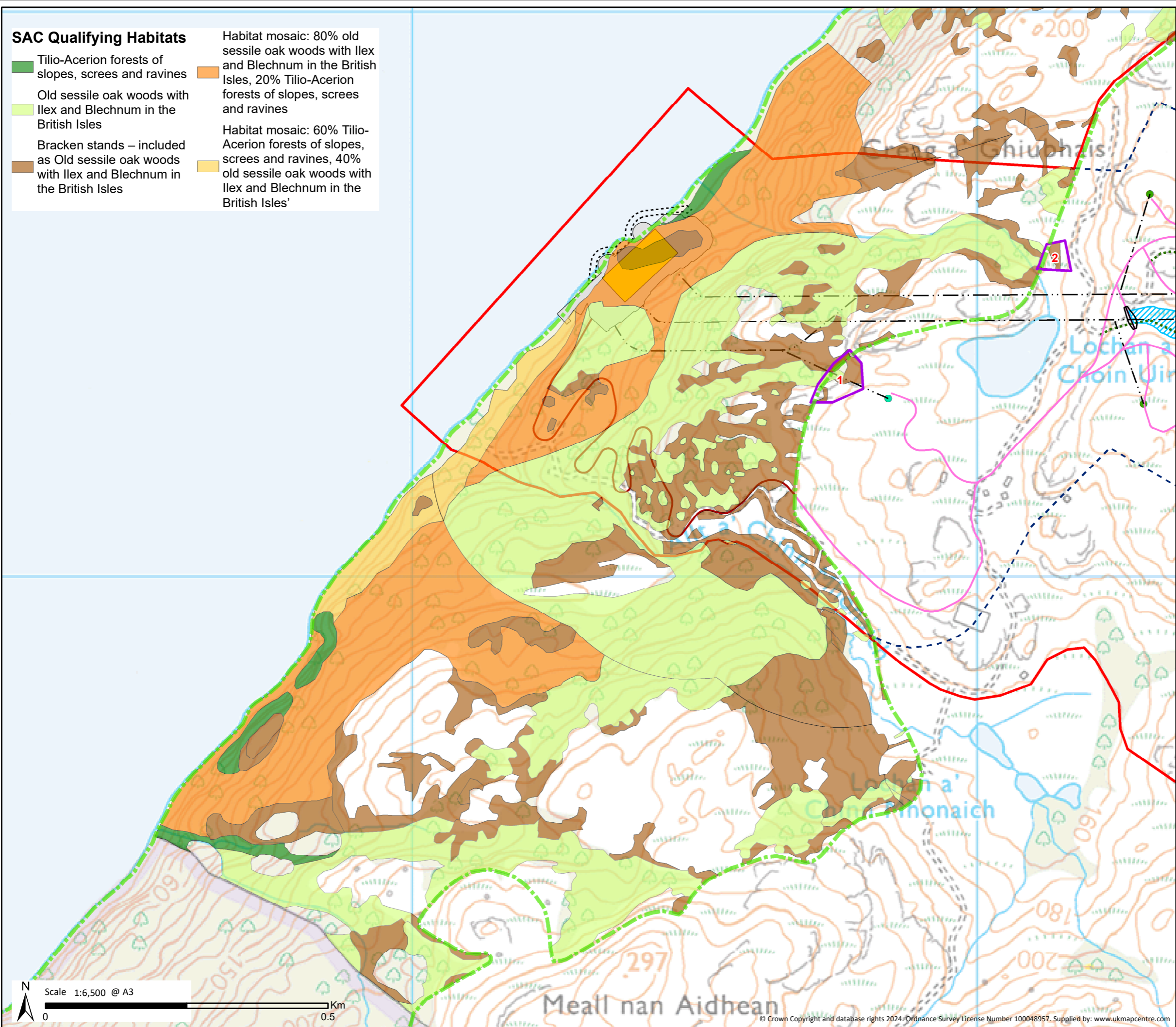
**Loch Kemp
Pumped Storage Scheme**

**Figure 4a
SAC Qualifying Habitats**

Drawn by: HC Date: 16/09/2024
Drawing: LKS_D_05_004A

**Loch Kemp
Storage**
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Scale 1:6,500 @ A3
0 0.5 Km



SAC Qualifying Habitats

- Tilio-Acerion forests of slopes, screes and ravines
- Old sessile oak woods with Ilex and Blechnum in the British Isles
- Bracken stands – included as Old sessile oak woods with Ilex and Blechnum in the British Isles
- Habitat mosaic: 80% old sessile oak woods with Ilex and Blechnum in the British Isles, 20% Tilio-Acerion forests of slopes, screes and ravines
- Habitat mosaic: 60% Tilio-Acerion forests of slopes, screes and ravines, 40% old sessile oak woods with Ilex and Blechnum in the British Isles'

Key

- Site Boundary
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**Loch Kemp
Pumped Storage Scheme**

**Figure 4b
SAC Qualifying Habitats**

Drawn by: HC Date: 16/09/2024
Drawing: LKS_D_05_004B




**Loch Kemp
Storage**
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ash


Scale 1:6,500 @ A3
0 0.5 Km


Appendix B: Target Notes


Table 1: Habitat Target Notes


Target Note	Grid Reference	Description	Photograph
1	NH 47025 17697	<p>View west from the heath covered slopes above loch ness over the SAC woodland. The majority of the woodland is dominated by downy birch (<i>Betula pubescens</i>), typical of upland oak/birch woodland W17 <i>Quercus petraea</i>-<i>Betula pubescens</i>-<i>Dicranium majus</i> woodland.</p> <p>Generally species diversity increases along the shore of Loch Ness, where hazel, willow, ash, aspen and occasionally oak and holly can be found.</p> <p>Young or regenerating trees are rare throughout the woodland.</p>	


2	NH 45011 15879	Tree density varies throughout the SAC, becoming more variable as the slope moves uphill away from Loch Ness.	
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3	NH 44746 15726	Bracken is extensive throughout the SAC and often forms vast swathes between trees and beneath the tree canopy, shading out most vegetation beneath the bracken layer.	
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4	NH 47213 17765	As the slope climbs away from Loch Ness toward the edge of the SAC boundary, tree cover becomes more scattered and heath habitats become more predominant.	 A photograph showing a hillside with scattered trees and heath habitats. The trees are mostly bare, suggesting autumn or winter. The ground is covered in low-lying vegetation, including heath and grasses. The sky is overcast.
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<p>5</p>	<p>NH 46681 17925</p>	<p>Although the SAC is designated as Western Acidic Oak Woods, oak is generally rare within the SAC. The exception to this is in locations where the topography precludes browsing and bracken abundance. The only oaks remaining within the SAC area within Dell Estate are large veteran trees, with no new sapling recruitment into the woodland.</p>	
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6	NH 45859 17095	Within the woodland canopy, occasional clonal areas of Aspen are found, usually next to watercourses where the ground is free draining and they aren't shaded out by other species.	
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7	NH 44832 15393	Small patches of acid grassland can be found in steep sections where bracken is absent. Grazing pressure in these areas are high, such as this location close to the south-western boundary between Dell Estate and FLS.	
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8	NH 46224 17046	In occasional patches throughout the SAC, the gradient lessens and the water table becomes higher. Bracken generally is absent from these areas and a mosaic of heath and blanket mire is found.	
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9	NH 47040 17558	Herbivore impacts are widespread across the SAC/SSSI, with browsing frequent and trampling effects evident throughout woodland, heath and mire habitats.	
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<p>10</p>	<p>NH 46926 17416</p>	<p>Within steeper sections of the site, particularly within gorges containing watercourses, such as here along the Allt an t-Sluichd, which drains Loch Kemp into Loch Ness – the woodland is more characteristic of <i>W9 Fraxinus excelsior</i> – <i>Sorbus aucuparia</i> – <i>Mercurialis perennis</i> woodland. This woodland type aligns with the Annex I habitat 9180 <i>Tilio-Acerion</i> forests of slopes, screes and ravines. This is one of the qualifying habitats of the SAC and SSSI and is often found in a mosaic with the other qualifying habitat of the SAC Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles.</p>	
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11	NH 47131 18249	Close to the boundary fence between Dell estate and FLS conifer plantation, where conifers start to dominate the tree canopy.	
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