

FEARNA STORAGE

Fearna Pumped Storage Hydro Scheme EIA Report

Appendix 8.1B– Southern Access Route NVC Survey

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**Fearna Pumped Storage Scheme
Southern Access Route National Vegetation
Classification Survey**



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EXECUTIVE SUMMARY

EnviroCentre Limited were commissioned by Fearna PSH Ltd. to undertake a UKHab and National Vegetation Classification (NVC) survey along the proposed Loch Fearna Pumped Storage Hydro (PSH) Scheme's Southern Access Route (SAR), near Invergarry in relation to a planning submission for a nationally significant Large-scale Long Duration Electricity storage (LDES) scheme (the Proposed Development).

Nineteen NVC communities and eight non-communities were identified. Nine communities qualify as Annex 1 habitats of international importance (A22, A24, H21, M1, M15, M17, M25a, W17, and W18). Fourteen communities are listed as Priority Habitats listed in the Scottish Biodiversity List (SBL) considered to be of national (Scottish) importance (A22, A24, H21, M1, M6, M15, M17, M25a, M29, S9, W4, W9, W11, W17, and W18). One community (U4) is of local importance, and three (M23, U20, W23) are of site importance. Six non-NVC habitats are of site importance, while two are of negligible importance.

Five wetland communities within the survey area are listed as having potential groundwater dependence, the M6 mire, M23 rush-pasture, and M29 soakway can be highly groundwater dependant, depending on the hydrogeological setting, and the M15 wet heath and M25 mire communities can be moderately groundwater dependent, depending on the hydrogeological setting.

M1 bog pools are considered to be priority peatland communities; M17 blanket mires are communities that are likely to be considered as priority peatland; and M15 wet heath, and M25 mire, on deep peat (>50cm), may indicate degraded peatland communities. M15 wet heath and M25 mire within the survey area located on areas of Class 1 and 2 peat and may represent degraded peatland.

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1 INTRODUCTION

1.1 Terms of Reference

EnviroCentre Limited were commissioned by Fearna PSH Ltd. to undertake a UKHab and National Vegetation Classification (NVC) survey along the proposed Loch Fearna Pumped Storage Hydro (PSH) Scheme's Southern Access Route (SAR), near Invergarry, in relation to a planning submission for a nationally significant Large-scale Long Duration Electricity storage (LDES) scheme (the Proposed Development).

The 'survey area' constitutes the areas of the 'site' plus appropriate buffers as shown in the Quadrat Location Plan in Appendix A.

The results and recommendation in this document relate to the site boundary as provided by the client at the time of the survey.

1.2 Scope of Report

The aim of the NVC and UKHab Survey is to establish the current ecological baseline of the site, in order to inform the proposed development of a pumped storage scheme. The main objectives of the survey were as follows:

- Categorise and map the broad habitats present on the site.
- Evaluate the habitats applicable to site against geographic levels of importance;
- Classify the vegetation communities present within the survey area.
- Confirm the presence of any priority /Annex 1 habitats, priority peatland habitats, priority floral species, and potential Ground Water Dependent Terrestrial Ecosystems (GWDTEs) via National Vegetation Classification (NVC) survey.

1.3 Survey Area Description

The survey area comprises a linear route extending from near Loch Quoich (where the proposed Loch Fearna Pumped Storage will be located), centred at Ordnance Survey National Grid Reference (OSNGR) NH 05162 03136, and the east of Loch Garry, centred at OSNGR NH 27753 01997, and ranges between 90m-300m of elevation. The eastern section of the SAR follows existing forestry tracks, extending approx. 23.5km from the Glen Garry carpark to the River Kingie Crossing. The western section of the SAR is proposed to cross areas of non-native conifer plantation and open heathland and extends approx. 4.3 km from the River Kingie extending to the main road, approx. 550m east of the Quoich Dam.

1.4 Project Description

The site is proposed for an access route for the proposed PSH at Loch Fearna, which is set to add to the existing hydroelectric network by transferring water between a lower loch (Loch Quoich) and an upper reservoir, comprising Loch Fearna and Coire Dubh. This will involve the removal of vegetation, including upland heath, moorland and forestry plantation, in order to widen existing sections of road, as well as building new sections.

1.5 Report Usage

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2 METHOD

2.1 Desk Study

In order to anticipate the potential ecological sensitivities at the site, a desk study was conducted in June 2023 in advance of the field survey. The following sources were checked:

- Highland Biological Record Centre (HBRC) Biological Records supplied records for notable and protected floral species within 2km of the site;
- Highland Nature Biodiversity Action Plan¹ for local Priority Habitats and species.
- Records of Ancient Woodland available through Scotland's Environment Web², within or adjacent to the site.
- Records of native woodland available through the Native Woodland Survey of Scotland (NWSS) web map viewer³.
- The Caledonian Pinewood Inventory⁴ to identify areas of Caledonian pinewood, regeneration zones, and buffer zones within or adjacent to the site.
- The Scottish Biodiversity List⁵ for Priority Habitats and species.
- Peatland and Carbon Map (2016)⁶.
- British Geology Survey Viewer Tool⁷.
- Ordnance Survey 1:25,000 and 1:50,000 maps⁸.

2.2 Habitat Survey

Field work was conducted by EnviroCentre Lead-Senior Ecologist Steven Duncan ACIEEM and Consultant Ecologists Luigi Cristofaro and Billy Brook. The survey was conducted over 10 days between the 13th and 17th of May 2024 and 10th and 14th June 2024. The survey area included the linear route site boundary in place at the time and up to 250m buffer.

Weather throughout the surveys was generally mild, with clear to overcast conditions, occasional scattered showers, and average temperatures between 9 to 15°C in May and 2 to 5°C in June

2.2.1 UKHab Survey

A UK Habitat Classification (UKHab) Survey was carried out in accordance with the user manual⁹. UKHab is a hierarchical system for rapidly recording and classifying habitat via satellite imagery and field survey. The system comprises 5 levels of Primary Habitats which include ecosystems, broad habitats, priority habitats and Annex I habitats, along with non-hierarchical secondary codes which provide information on the environment, management and origin of Primary Habitats. The secondary codes are also used to map habitat mosaics and identify notable species features. The information

¹ Available at: https://www.highlandenvironmentforum.info/wp-content/uploads/2022/01/Highland-Nature-Biodiversity-Action-Plan-2021-2026-_compressed-.pdf (Accessed September 2024)

² Available at: <https://www.environment.gov.scot/maps/scotlands-environment-map/> (Accessed September 2024)

³ Available at: Native Woodland Survey of Scotland - Data Explorer (arcgis.com) (Accessed September 2024)

⁴ Available at: Caledonian Pinewood Inventory - data.gov.uk (Accessed September 2024)

⁵ NatureScot (2023) Available at: <https://www.nature.scot/scottish-biodiversity-list> (Accessed September 2024)

⁶ Available at Scotland's Soils - soil maps (environment.gov.scot) (Accessed September 2024)

⁷ Available at GeolIndex - British Geological Survey (bgs.ac.uk) (Accessed September 2024)

⁸ Available at Bing Maps - Directions, trip planning, traffic cameras & more (Accessed September 2024)

⁹ UKHab Ltd (2023). UK Habitat Classification Version 2.0 (Available at: <https://www.ukhab.org>) (Accessed September 2024)

collected is used to identify ecologically sensitive features and recommend mitigation and enhancement measures in connection with a proposed development.

The surveyor utilised the UKHab Professional edition with a Minimum Mapping Unit (MMU) of 25m² and aimed to categorise habitats up to level 5. Where the level 5 habitat could not be determined or is not reflective of the habitat type due to a lack of indicative species, habitats were categorised to level 4 or the broader level 3 habitat.

The information is used to identify ecologically sensitive features/habitats, inform relevant species surveys and, aid in the recommendation of mitigation and enhancement measures in connection with a proposed development.

Where applicable, alterations to UKHab symbology on maps may occur where relevant for clarity.

2.2.2 National Vegetation Classification

The NVC aims to classify semi-natural vegetation communities in a standardised fashion based on species composition and frequency. A site walkover was conducted to gain an overview of the vegetation present. Homogenous stands were then identified by eye and mapped by hand onto aerial imagery. Notes on the species composition and frequency, structure, and any apparent management were taken. Representative 2x2m quadrats were surveyed using the Domin Scale¹⁰ within the habitats. A general species list for each community and/or sub-community was recorded additionally to the quadrat data and used to bolster the species description where relevant. This data, alongside the keys and floristic tables presented in Volumes 1 to 5 of the British Plant Communities¹¹, were used to determine the NVC communities. The communities were identified to the sub-community level where sufficient data was available to do so. The naming convention follows Stace (2019)¹² for vascular plants and Smith (2004) for bryophytes¹³.

A MMU of 400m² was utilised within the proposed development footprint¹⁴. A larger MMU of 10,000m² was utilised in the survey area. Significant habitats under the minimum mapping unit and presence of protected and/or notable species/features/management was target noted.

The DAFOR scale¹⁵ is used in text to describe the relative abundance of vegetative species recorded within each NVC community.

NVC quadrat locations are displayed in Appendix A: Quadrat Location Plan.

¹⁰ Cover of 91-100% - Domin 10; Cover of 76-90% - Domin 9; Cover of 51-75% - Domin 8; Cover of 34-50% - Domin 7; Cover of 26-33% is - Domin 6; Cover of 11-25% - Domin 5; Cover of 4-10% - Domin 4; Cover of <4% with many individuals is Domin; Cover of <4% with several individuals is Domin 2; and Cover of <4% with few individuals is Domin 1

¹¹ Rodwell, J.S. (1991) *British Plant Communities, Volume 1: Woodlands and Scrub*. Cambridge University Press, Cambridge.

Rodwell, J.S. (1991) *British Plant Communities, Volume 2: Mires and Heaths*. Cambridge University Press, Cambridge.

Rodwell, J.S. (1992) *British Plant Communities, Volume 3: Grasslands and Montane Communities*. Cambridge University Press, Cambridge.

Rodwell, J.S. (1995) *British Plant Communities, Volume 4: Aquatic Communities, Swamps and Tall-herb Fens*. Cambridge University Press, Cambridge.

Rodwell, J.S. (2000) *British Plant Communities, Volume 5: Maritime Communities and Vegetation of Open Habitats*. Cambridge University Press, Cambridge.

¹² Stace, C.A. (2019) *New Flora of the British Isles*. 4th edition. C&M Floristics.

¹³ Smith, A.J.E. (2004) *The Moss Flora of Britain and Ireland*. 2nd edition. Cambridge University Press.

¹⁴ Proposed development footprint, drawing No. FEA/GEL/001, as provided by Ash + Design in April 2023. This Footprint was updated to include Coire Dubh to the north during July 2023; however, a updated drawing was not provided at this time.

¹⁵ D - Dominant 50-100%, A - Abundant 30-50%, F - Frequent 15-30%, O - Occasional 5-15%, and R - Rare < 5%

2.1 GWDTE Determination

GWDTEs are not in themselves necessarily of ecological value or rarity, although some GWDTEs may also comprise Annex I habitat, protected under the EU Habitats directive or UK Priority Habitats. GWDTEs are indicative of groundwater and so are protected under the Water Framework Directive (WFD), which is transposed into Scottish law through the Water Environment and Water Services (Scotland) Act, 2003 (WEWS Act). SEPA planning guidance¹⁶ has been used to determine potential GWDTEs. To help assess groundwater dependency, observations of local topography and features such as springs, diffuse groundwater emergence and floristic indicators of base enrichment were made.

2.2 Evaluation of Ecological Features

European, national and local governments and specialist organisations have together identified a large number of sites, habitats and species that provide the key focus for biodiversity conservation in the UK and Ireland, supported by policy and legislation. These provide an objective starting point for identifying the important ecological features that need to be considered.

A geographical level of importance, as described in Appendix B, has been assigned to the habitats identified on the site and in the survey area. Where a feature is important at more than one level in the table, its overriding importance is that of the highest level. Usually, only the highest level of legal protection is listed.

2.3 Survey Constraints

The survey was conducted within the main growth season. However, the peak times for growth and flowering vary between species, so it is possible that some species were missed as their vegetative and/or flowering parts were not visible at the time of survey. It is considered unlikely that this would alter the NVC communities assigned or the evaluation of GWDTEs.

Due to complexities of plant identification in the field and surveyor experience, not all lower plant species (mosses, liverworts and lichens) would likely have been identified. Individual notable species may have been missed but overall NVC communities unlikely to be altered.

Given the size of the site and MMU unit utilised, smaller features such as springs or flushes and bog pools may have been missed.

¹⁶ Scottish Environment Protection Agency (SEPA) Land Use Planning System Guidance Note 31: Guidance on Assessing the Impacts of Development on Ground Water Abstractions and Ground Water Dependent Terrestrial Ecosystems, accessed online at: <https://www.sepa.org.uk/media/144266/lups-gu31-guidance-on-assessing-the-impacts-of-development-proposals-on-groundwater-abstractions-and-groundwater-dependent-terrestrial-ecosystems.pdf> (Accessed September 2024)

3 RESULTS AND ASSESSMENT

3.1 Desk Study

3.1.1 Ancient Woodland Inventory

Ancient woodland parcels listed on the Ancient Woodland Inventory are displayed in the Quadrat Location Plan in Appendix A.

The Ancient Woodland Inventory of Scotland displays woodlands which have existed since at least the 1750s, or appear on the 1st edition Ordnance Survey map of 1860, and which are regarded of high conservation value.

A total of 74 parcels of ancient woodland are located within 2km of the SAR route. Sixty-five of these are listed as Ancient (of semi-natural origin) (ASNO), five are Long-Established (of plantation origin) (LEPO), and four are listed as 'other' having been displayed in the 1750 Roy maps.

Twelve parcels of ancient woodland are intercepted or are situated directly adjacent (within 50m) of the SAR. Nine of these are located in Grid Square NH20, situated within the eastern half of the route, within the densest distribution of ancient woodland within the first c. 4.5km from the eastern extent of the route. The largest area of ancient woodland which is intercepted is a 331 ha ASNO (Woodland_ID 2969) located to the east of the route which surrounds the Allt Ruighe Bhlair and Allt na Cailliche watercourses and surrounding hill ground.

Ancient and native woodlands are protected under Policy 3 and Policy 6 of NPF4 and are considered to be of **national (Scottish)** importance.

3.1.2 Native Woodland Survey of Scotland

The NWSS provides detailed information about native woodlands, including their type, composition, condition, and location.

Two hundred and sixty-two habitat parcels are listed in the NWSS are situated within 2km of the SAR route. Of these, 172 are listed as Native Woodland, 62 are listed as Plantation over Ancient Woodland (PAWS), eight are listed as Nearly-native Woodland, and 19 are listed as Open Land Habitat and are do not include closed -canopy woodland. Of the Native Woodlands, approx. 55% are listed as Upland Birchwoods, 28% are listed as Pinewoods, 5% are listed as Wet Woodland, 2% are listed as Upland Oakwood. 10% are listed as Unidentifiable Type.

Native woodlands are protected under Policy 3 of NPF4 and are considered to be of **national (Scottish)** importance.

3.1.3 Caledonian Pinewood Inventory

Caledonian pinewood zones listed in the Caledonian Pinewood Inventory are displayed in the Quadrat Location Plan in Appendix A.

The Caledonian Pinewood Inventory records the location and status of remnant native Scots pine forests.

The SAR route intercepts the Glen Garry Caledonian Pinewood, consisting of many fragmented pockets of pinewood interspaced by other native woodland habitats and non-native commercial forestry plantation. Areas of Caledonian pinewood are restricted to the east side of the SAR route, spanning from Garrygualach at the western extent of Loch Garry to the Glen Garry to Gleann Laogh, near the eastern extent of Loch Garry. There is no Caledonian pinewood present to the western extent of the SAR route.

Within a 50m buffer zone surrounding the SAR, approximately 3.2% of the area is classified as Caledonian pinewood. 21% of the area is situated within the Caledonian pinewood regeneration zone, and 60% of the area is within the Caledonian pinewood buffer zone. The regeneration zone plays a crucial role in facilitating the natural spread and growth of Scots pine, while the buffer zone helps to minimize edge effects that could degrade the pinewood habitat.

As a designated EU Habitats Directive Annex 1 Habitat (91C0), Caledonian pinewoods are considered to be important at an international level. These habitats are listed under Policy 3 of NPF4 and are considered to be of **international** importance.

3.1.4 Superficial Deposits

The British Geological Society Hydrogeological Map indicates that the predominant superficial deposit along the SAR route consists of hummocky glacial deposits, made up of poorly sorted sand and gravel. These deposits are typical of glacial environments, where material is deposited unevenly.

Surrounding named watercourses, including the Gearr Garry, Allt Choire a' Bhalachain, Allt Ladaidh, and the River Garry, are frequent alluvium deposits, composed of clay, silt, sand, and gravel. These alluvial deposits are mainly confined to river valleys and are often disconnected from each other due to the nature of the terrain.

In addition to these deposits, peat occurs as isolated patches along the SAR route, typically within valleys or on areas of flat topography. These peat deposits are limited in extent and evenly distributed across the route.

The Peatland and Carbon map (2016) indicated that the predominant soil cover is categorised as Class 5, meaning no peatland habitats are recorded in these areas. Class 1 peat deposits, defined as, "*Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas likely to be of high conservation value*", are rare along the SAR and displayed as being present only within small pockets to the east of the Allt Ladaidh.

Class 2 peat deposits, defined as, "*Nationally important carbon-rich soils, deep peat and priority peatland habitat. Areas of potentially high conservation value and restoration potential*", are displayed as more prevalent along the SAR route, particularly towards the western extent. Class 2 peat deposits are more isolated throughout the eastern extent of the route but become increasing common towards the west. Notable areas of Class 2 peatland intercepted by the SAR route include Greenfeild, Braigh Uaine, Meall Coire Each, Allt Lon Glas Bheinn, Allt Fionn-dhail, and the south of Lochen an Staic. After passing the final forestry block to the west, Class 2 peat becomes the dominant deposit type across the hill ground leading to the Quoich dam at the far western extent of the survey area.

3.1.5 Bedrock Geology

The British Geological Society Hydrogeological Map indicates that the predominant bedrock along the SAR route consists of metamorphic psammite from the Upper Garry Psammite Formation. This bedrock is interspersed with small igneous intrusions that include pegmatite, microdiorite, meladiorite,

granitic rock, microgranite, lamprophyres, and other igneous rock types. These igneous formations frequently align with watercourse corridors, which have developed along their boundaries due to the rock's erosion patterns.

A notable deviation from this dominant bedrock occurs at the West Highland Granite Gneiss Intrusion, located at the midsection of Loch Garry and extending south along the Allt Ladaidh. Additionally, a fault line, running northwest to southeast, intercepts Glen Kingie, just south of the SAR route.

All bedrock types within this area are classified as low productivity aquifers, meaning they can contain only limited amounts of groundwater, typically found in the near-surface weathered zone and secondary fractures.

3.2 Field Survey Summary

The results of the field survey are summarised in Table 3-1, below:

Table 3-1: Summary of NVC Communities Present within the SAR

NVC Community	UKHab Habitat	EU Habitats Directive Annex 1 Habitat	SBL Priority Habitat	Geographic Level of Importance	Potential Groundwater Dependency (SEPA LUPS 31)
A22 - <i>Littorella uniflora</i> - <i>Lobelia dortmanna</i> community	r1c6 Clear-water lakes or lochs with aquatic vegetation (H3130)	3130 - Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>	Oligotrophic and Dystrophic Lakes	International	No
A24 - <i>Juncus bulbosus</i> community	r1c Oligotrophic and dystrophic lakes	3160 Natural dystrophic lakes and ponds	Oligotrophic and Dystrophic Lakes	International	No
H21 - <i>Calluna vulgaris</i> - <i>Vaccinium myrtillus</i> - <i>Sphagnum capillifolium</i> heath	h1b5 Dry heaths – upland (H4030)	4030 European dry heaths	Upland Heathland	International	No
M1 - <i>Sphagnum denticulatum</i> bog pool community	f1a5 Blanket bog	7130 - Blanket bogs	Blanket Bog	International	No
M6 - <i>Carex echinata</i> - <i>Sphagnum recurvum/auriculatum</i> mire M6d <i>Juncus effusus</i> sub-community	f2c Upland flushes, fens, and swamps	N/A	Upland Flushes, Fens, and Swamps	National (Scottish)	Highly Groundwater Dependent
M15 - <i>Scirpus cespitosus</i> - <i>Erica tetralix</i> wet heath • M15b Typical sub-community	h1b6 Wet heathland with cross-leaved heath - upland	4010 - Northern Atlantic wet heaths	Upland Heathland	International	Moderately Groundwater Dependant
M17 - <i>Scirpus cespitosus</i> - <i>Eriophorum vaginatum</i> blanket mire • M17a <i>Drosera rotundifolia</i> - <i>Sphagnum</i> sub-community • M17b <i>Vaccinium myrtillus</i> - <i>Cladonia</i> sub-community	f1a5 Blanket bog	7130 - Blanket bogs	Blanket Bog	International	No
M23 - <i>Juncus effusus</i> - <i>Galium palustre</i> rush-pasture • M23b <i>Juncus effusus</i> sub-community	f2c Upland flushes, fens, and swamps	N/A	N/A	Site	Highly Groundwater Dependent
M25 - <i>Molinia caerulea</i> - <i>Potentilla erecta</i> mire • M25a - Typical sub-community • M25b - <i>Anthoxanthum odoratum</i> sub-community	f2c Upland flushes, fens, and swamps	M25a - Typical sub-community is 7130 - Blanket bogs	M25a - Typical sub-community is Blanket Bog	International	Moderately Groundwater Dependant
M29 - <i>Hypericum elodes</i> - <i>Potamogeton polygonifolius</i> soakway	f2c Upland flushes, fens, and swamps	N/A	Upland Flushes, Fens, and Swamps	National (Scottish)	Highly Groundwater Dependent

NVC Community	UKHab Habitat	EU Habitats Directive Annex 1 Habitat	SBL Priority Habitat	Geographic Level of Importance	Potential Groundwater Dependency (SEPA LUPS 31)
S9 - <i>Carex rostrata</i> swamp	f2c Upland flushes, fens, and swamps	N/A	Upland Flushes, Fens, and Swamps	National (Scottish)	No
U20 - <i>Pteridium aquilinum</i> - <i>Galium saxatile</i> community	g1c Bracken	N/A	N/A	Site	No
U4 - <i>Festuca ovina</i> - <i>Agrostis capillaris</i> - <i>Galium saxatile</i> grassland	g1b6 Other upland acid grassland	N/A	N/A	County	No
W4 - <i>Betula pubescens</i> - <i>Molinia caerulea</i> woodland, <i>W4c</i> <i>Sphagnum</i> sub-community	w1d Wet woodland	N/A	Wet Woodland	National (Scottish)	Highly Groundwater Dependent
W9 - <i>Fraxinus excelsior</i> – <i>Sorbus aucuparia</i> - <i>Mercurialis perennis</i> woodland	w1f Lowland mixed deciduous woodland	N/A	Lowland Mixed Deciduous Woodland	National (Scottish)	No
W11 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Oxalis acetosella</i> woodland	w1f Lowland mixed deciduous woodland	N/A	Lowland Mixed Deciduous Woodland	National (Scottish)	No
W17 - <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland	w1e Upland birchwoods	N/A	Upland Birchwoods	National (Scottish)	No
	w1a5 Western acid oak woodland	91A0 - Old sessile oak woods with Ilex and Blechnum	Upland Oakwood	International	
W18 - <i>Pinus sylvestris</i> - <i>Hylocomium splendens</i> woodland • <i>W18b</i> <i>Vaccinium myrtillus</i> - <i>Deschampsia flexuosa</i> sub-community • <i>W18d</i> <i>Erica cinerea</i> sub-community	w2a Native pine woodlands	N/A	Native Pine Woodlands	w2a Native pine woodlands is National (Scottish).	No
	w2a5 Caledonian forest (examples located within zone identified by Caledonian Pinewood Inventory)	91C0 - Caledonian forest		w2a5 Caledonian forest is International	
W23 - <i>Ulex europaeus</i> - <i>Rubus fruticosus</i> scrub,	h3e Gorse scrub	N/A	N/A	Site	No

3.3 NVC Communities

This section should be read in conjunction with Appendix C: NVC Survey Plan, Appendix D UKHab Plan, Appendix E Habitat Designation Plan, and Appendix G NVC Quadrat Floristic Tables.

3.3.1 A22 - *Littorella uniflora*-*Lobelia dortmanna* Community

This community comprised submerged vegetation within shallow margins of Lochan an Staic, c. 190m, asl. This community develops on exposed, stoney shallows in clear, oligotrophic (nutrient-poor) water in upland regions of north and west of Britain where there is little annual variation in water level, and the substrate remains stable.

Submerged vegetation within the lochan included abundant bulbous rush (*Juncus bulbosus*), and frequently occurring water lobelia (*Lobelia dortmanna*) and shoreweed (*Littorella uniflora*). White water lily (*Nymphaea alba*) was frequent in deeper, more open habitat further from the shore.

Emergent vegetation at the extreme margins of the lochan was similarly characterised by the aforementioned species, with the addition of wetland species including bog pondweed (*Potamogeton polygonifolius*), lesser spearwort (*Ranunculus flammula*), common spike rush (*Eleocharis palustris*), few-flowered spike rush (*Eleocharis quinqueflora*). In places, the presence of these more typical mire species may represent a transitional zone between the A22 community and M29 soakway which is present on inundated peaty substrate surrounding the lochan (refer Section 3.3.9).

These species collectively indicated a low-nutrient, acidic environment with high moisture availability and a preference for full sunlight, which is typical of the clear, oligotrophic waters found in upland areas of the northwest UK.

This NVC community aligns with UKHab r1c6 clear-water lakes or lochs with aquatic vegetation (H3130).

This freshwater habitat is recognised as Annex 1 habitat 3130 *Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea*¹⁷. This habitat is characterised by amphibious short perennial vegetation and is found in high-altitude, oligotrophic water bodies across the northwest UK. Given the species composition and ecological significance, the A22 community is considered to be of **international** conservation importance.

3.3.2 A24 - *Juncus bulbosus* Community

The A24 community is uncommon within the site and restricted to small, shallow pools ranging from a few meters to tens of meters in diameter present along the Gearr Garry to the far western extent of the SAR. These pools have formed in depressions and side channels which became disconnected from the Gearr Garry following changes to the water flow following the construction of the Quoich dam. The pools are range in depth of a few centimetres to a meter and have a substrate of gravels, silt, and organic matter. These pools are likely influenced by seasonal cycles of drying and inundation which influence the pool's size and depth.

These pools are characterised by abundant bulbous rush, frequent, green-ribbed sedge (*Carex binervis*), common cottongrass (*Eriophorum angustifolium*), bog pondweed, creeping bent (*Agrostis*

¹⁷Annex 1 habitat 3110 Oligotrophic waters containing very few minerals of sandy plains (*Littorelletea uniflorae*), available at [Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels \(Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea\) - Special Areas of Conservation \(jncc.gov.uk\)](#) (Accessed November 2023)

stolonifera), and occasionally occurring water lobelia. The margins of the pond include Sphagnum bog mosses, including *Sphagnum fallax*, *S. cuspidatum*, and *S. papillosum*, alongside soft rush (*Juncus effusus*), lesser spearwort, and star sedge (*Carex echinata*).

This NVC community aligns with UKHab r1c oligotrophic and dystrophic lakes.

This freshwater habitat is recognised as Annex 1 habitat 3160 *Natural dystrophic lakes and ponds*¹⁸. Given the species composition and ecological significance, the A24 community is considered to be of **international** conservation importance.

3.3.3 H21 - *Calluna vulgaris*-*Vaccinium myrtillus*-*Sphagnum capillifolium* Heath

H21 heath is a restricted vegetation type within the site, occurring in small patches on hummocky terrain within the proposed SAR. This is primarily found on moderate to steep slopes on thin, free-draining soils. The heath has emerged in an area that was formerly occupied by conifer plantations established over a decade ago; however, the steep, uneven terrain was likely avoided during commercial planting operations.

The heath is characterised by constant species including dominant heather (*Calluna vulgaris*), abundant *Sphagnum capillifolium*, and frequent bilberry (*Vaccinium myrtillus*), alongside associates heath bedstraw (*Galium saxatile*), tormentil (*Potentilla erecta*), red fescue (*Festuca rubra*), purple moor-grass (*Molinia caerulea*). Additional vegetation includes bracken (*Pteridium aquilinum*), male fern (*Dryopteris filix-mas*), hard fern (*Blechnum spicant*), and a variety of bryophytes such as *Hylocomium splendens*, *Pleurozium schreberi*, and *Rhytidiadelphus loreus*.

This NVC community aligns with UKHab h1b5 dry heaths – upland (H4030).

H21 heath qualifies as Annex 1 habitat 4030 *European dry heath*¹⁹s and is considered to be of **international** conservation importance.

3.3.4 M1 - *Sphagnum denticulatum* Bog Pool Community

M1 bog pools are present occasionally across blanket bog habitat in a mosaic with M17 blanket mire and M15 wet heath to the western extent of the SAR, and within patches of blanket bog near the centre of the SAR. The bog pools are typically small and range in size from 1x1m to 5x2m. At the time of survey, the pools ranged from inundated to dry.

This community is defined by the presence of *Sphagnum auriculatum* which formed an abundant component within the pools. *S. capillifolium*, *S. cuspidatum*, and *S. papillosum* were also recorded submerged and within the pool margins. Pools were typically species poor, especially in the dryer examples. Other species noted in pools across the survey area include bulbous rush, bog asphodel (*Narthecium ossifragum*), common butterwort (*Pinguicula vulgaris*), common cottongrass, Northern deergrass (*Trichophorum cespitosum*), cross-leaved heath (*Erica tetralix*), hare's tail cottongrass (*Eriophorum vaginatum*), heath rush (*Juncus squarrosus*), round-leaved sundew (*Drosera rotundifolia*), and star sedge.

This NVC community aligns with UKHab f1a5 blanket bog.

¹⁸ Annex 1 habitat 3160 Natural dystrophic lakes and ponds. Available at: [Acid peat-stained lakes and ponds \(Natural dystrophic lakes and ponds\) - Special Areas of Conservation \(jncc.gov.uk\)](https://jncc.gov.uk/special-areas-of-conservation/acid-peat-stained-lakes-and-ponds) (Accessed September 2024)

¹⁹ Annex 1 habitat 4030 European dry heaths, available at: [Dry heaths \(European dry heaths\) - Special Areas of Conservation \(jncc.gov.uk\)](https://jncc.gov.uk/special-areas-of-conservation/dry-heaths) (Accessed September 2024)

M1 bog pools are present in hollows within blanket bog habitat. Blanket bog qualifies as Annex 1 habitat 7130 *Blanket bogs*²⁰ and is considered to be of **international** conservation importance.

3.3.5 M6 - *Carex echinata-Sphagnum recurvum/auriculatum* Mire

M6 mire (Quadrat 08) within the SAR survey area was best represented by an approx. 250m extent located on either side of the track near Na Doireachan, east of the Allt Ladaidh watercourse. This community was present on the low lying, nutrient poor soils with impeded drainage and formed a mosaic with surrounding native pinewood located on hummocks raised above the surrounding ground. The mire was an example of the M6d M6d *Juncus effusus* sub-community.

Within the sward, soft rush was dominant, forming dense stands typical of M6d mire. Abundant species contributing to the rich moss layer, a key feature of this mire type, included *Calliergonella cuspidata*, *Philonotis fontana*, *Sphagnum fallax*, and *Sphagnum palustre*. *Brachythecium rivulare*, *Polytrichum commune*, and marsh violet (*Viola palustris*) were frequent. Occasional species, likely found in drier patches or transitional zones within the mire, included creeping buttercup, selfheal (*Prunella vulgaris*), and Yorkshire-fog. Less common species, rarely occurring, included *Dichodontium palustre*, hare's-tail cottongrass, *Pellia epiphylla*, tormentil, lesser chickweed (*Stellaria alsine*), and wavy bitter-cress (*Cardamine flexuosa*).

A further example of M6d mire, was recorded along the edges of the Allt Bad an t-Seobhaig watercourse which flows through the site compound area. This community was not recorded elsewhere in the SAR site. This example was relatively species poor and was characterised by dominant soft rush. Purple moor-grass, *Sphagnum fallax* and *Polytrichum commune* were abundant. Tormentil, marsh willowherb (*Epilobium palustre*), marsh bedstraw (*Galium palustre*), and marsh violet (*Viola palustris*) were also present though occurred less frequently.

This NVC community aligns with UKHab f2c upland flushes, fens, and swamps.

M6 mire habitat qualifies as SBL Priority Habitat *Upland Flushes, Fens and Swamps*²¹ and is considered to be of **national (Scottish)** conservation importance.

3.3.6 M15 - *Scirpus cespitosus-Erica tetralix* Wet Heath

M15 wet heath (Quadrat 14, 16 and 21) is associated with Class 2 peat deposits within the SAR site and becomes increasingly common towards the west of the site. This community is common around the Allt Fionn-dhail watercourse, surrounding Lochan an Staic, and becomes the dominant vegetation type across the hill ground to the west after passing the final forestry block at Tom an Doire Dhuinn. A small pocket of M15 wet heath is present to the south of the site compound area. This NVC community is represented by the M15b typical sub-community

Key species in this habitat include heather, common deergrass (*Trichophorum germanicum*), and purple moor-grass, which are abundant and form the primary component of the vegetation. In some areas, *Sphagnum capillifolium* attains similar cover. Of secondary importance, species such as common cottongrass, cross-leaved heath, bilberry, and tormentil are frequent.

Occasional species include bog asphodel, green-ribbed sedge (*Carex binervis*), heath bedstraw, and heath rush. Bryophytes, such as *Pleurozium schreberi*, *Polytrichum commune*, *Aulacomnium palustre*,

²⁰ Annex 1 Habitat 7130 Blanket bogs, available at <https://sac.jncc.gov.uk/habitat/H7130/> (Accessed September 2024)

²¹ UK BAP Priority Habitat Description (Fen, Marsh & Swamp), available at <https://hub.jncc.gov.uk/assets/6fe22f18-fff7-4974-b333-03b0ad819b88#UKBAP-BAPHabitats-59-UplandFlushesFensSwamps.pdf> (Accessed September 2024)

Racomitrium lanuginosum, and *Rhytidiadelphus squarrosus*, also form a frequent component of the ground layer.

Additional species, found rarely, include devil's-bit scabious (*Succisa pratensis*), hard fern, heath milkwort, red fescue, round-leaved sundew, heath spotted-orchid (*Dactylorhiza maculata*), star sedge, *Sphagnum papillosum*, and sweet vernal grass (*Anthoxanthum odoratum*). Additionally, bryophytes such as *Hylocomium splendens*, *Hypnum jutlandicum* (locally abundant), and *Pleurozia purpurea* were present.

This NVC community aligns with UKHab h1b6 wet heathland with cross-leaved heath – upland.

M15 heath qualifies as Annex 1 habitat 4010 Northern Atlantic wet heaths with *Erica tetralix*²² and is considered to be of **international** conservation importance.

3.3.7 M17 - *Scirpus cespitosus*-*Eriophorum vaginatum* Blanket Mire

M17a blanket mire (Quadrat 07, 10, 13, 17, and 20) within the SAR site was associated with Class 1 and Class 2 peat deposits, and patches of this habitat were isolated and interspaced along the route.

The M17a *Drosera rotundifolia*-*Sphagnum* sub-community was the more common mire type within the site, characterised by dominant hare's-tail cottongrass, and northern deergrass. Common cottongrass, heather, and purple moor-grass were abundant across the quadrats, forming a significant portion of the ground cover. *Sphagnum capillifolium*, cross-leaved heath, and bog asphodel were frequent species. Other species include bog-myrtle (*Myrica gale*), *Sphagnum papillosum*, and various other *Sphagnum* mosses including *S. denticulatum*, *S. cuspidatum*, and *S. palustre* were occasional. Less common species included round-leaved sundew (*Drosera rotundifolia*), great sundew (*Drosera anglica*), heath milkwort (*Polygala serpyllifolia*), and tormentil appeared occasionally or rarely. Bryophytes such as *Racomitrium lanuginosum* and *Pleurozia purpurea*, as well as lichens like *Cladonia portentosa* were recorded rarely.

An area of M17b (Quadrat 11) *Vaccinium myrtillus*-*Cladonia* sub-community was present near the centre of the SAR adjacent to Meall Coire Each. This sub-community was characterised by a flat expanse of peatland with scattered bog pools and deep peat hags along drainage lines. The M17b variant was distinguished by the dominance of *Cladonia portentosa* which formed extensive carpets across the bog. Heather was abundant, and *Sphagnum papillosum* and *Racomitrium lanuginosum* were frequent. Hare's-tail cottongrass, common cottongrass, northern deergrass, bog asphodel, and *S. capillifolium* were recorded occasionally. Rarely occurring species included *S. cuspidatum*, cross-leaved heath, round-leaved sundew, *Pleurozium purpurea*, and *Odontoschisma sphagni*.

This NVC community aligns with UKHab f1a5 blanket bog.

M17 blanket mire qualifies as Annex 1 habitat 7130 Blanket bogs²³ and is considered to be of **international** conservation importance.

3.3.8 M23 - *Juncus effusus*-*Galium palustre* Rush-pasture

M23 rush-pasture within the SAR survey area occurred occasionally in ditches and along edges of minor watercourse, but was often narrow in extent and did not exceed the MMU of 25m².

²² Annex 1 habitat 4010 Northern Atlantic wet heaths with *Erica tetralix*, available at [Wet heathland with cross-leaved heath \(Northern Atlantic wet heaths with *Erica tetralix*\) - Special Areas of Conservation \(jncc.gov.uk\)](#) (Accessed September 2024))

²³ Annex 1 habitat 7130 Blanket bogs, available at <https://sac.jncc.gov.uk/habitat/H7130/> (Accessed September 2024))

Soft rush was the dominant species within the sward, with frequent Yorkshire fog, purple moor-grass, and sweet vernal grass. Forbs present included frequent marsh bedstraw, creeping buttercup, wild angelica (*Angelica sylvestris*), devil's-bit scabious, and marsh willowherb (*Epilobium palustre*). Mosses included *Brachythecium rutabulum* and *Calliergonella cuspidata*

This NVC community aligns with UKHab f2c upland flushes, fens, and swamps.

Overall, the M23b community at this site demonstrated a typical composition of the *Juncus effusus*–*Sphagnum* mire, with a range of mosses, rushes, and wetland plants thriving in the waterlogged, nutrient poor environment. This habitat is considered to be important at a site level.

3.3.9 M25 - *Molinia caerulea*-*Potentilla erecta* Mire

M25 mire was recorded on pockets of open moorland across the SAR, especially to the west on areas of un-forested Class 2 peatland. This mire type was exemplified by the M25a typical sub-community and the more grassy M25b - *Anthoxanthum odoratum* sub-community. The M25a sub-community was located on wet, peaty ground on gentle slopes and often graded to adjacent wet heathland or blanket bog. The M25b sub-community was often present on peaty ground on the banks of watercourses.

Within the M25a sub-community purple moor-grass formed the abundant sward component. Dwarf shrubs, heather, bog myrtle, and cross-leaved heath with a secondary component (<25% total cover). Northern deergrass and bog asphodel were also frequent, and *Sphagnum* species, *S. capillifolium*, *S. papillosum*, and *S. rubellum* occurred occasionally cresting patches of moss cover. Less common species included typical bog-species round-leaved sundew, common cottongrass, and hare's-tail cottongrass, which became more abundant at transitional zones between M25a mire and M17 blanket bog.

Within the SAR, the M25b (Quadrat 18) sub-community was generally confined to riparian zones, particularly on the banks of the Gear Garry, the River Kingie, and along the small burns which divide the site compound area. This sub-community was characterised by a dominance of purple moor-grass accompanied by a greater variety of grass and herb species, with less diversity of typical bog species. Among the grass-like species and forbs, species typical of acidic grassland and woodland were recorded, including bluebell (*Hyacinthoides non-scripta*), tormentil, creeping viviparous fescue (*Festuca vivipara*), sweet vernal-grass (*Anthoxanthum odoratum*), Yorkshire fog (*Holcus lanatus*), heath woodrush (*Luzula multiflora*), ribwort plantain (*Plantago lanceolata*), soft rush, heath milkwort (*Polygala serpyllifolia*), meadow buttercup (*Ranunculus acris*), common lousewort (*Pedicularis sylvatica*), soft grass (*Holcus mollis*), sheep's-fescue, red fescue (*Festuca rubra*), pill sedge, common sorrel, wood sage (*Teucrium scorodonia*), heath bedstraw, and chickweed wintergreen (*Trientalis europaea*). Rarely recorded species included common dog violet (*Viola riviniana*) and wood anemone (*Anemone nemorosa*). The presence of woodland indicator species, including creeping soft grass, bluebell, chickweed wintergreen points to these areas having historically functioned as riparian woodland.

Bryophytes played a significant role in the ground layer, with *Hylocomium splendens* and *Pleurozium schreberi* both frequent, while *Dicranum scoparium*, *Sphagnum palustre*, and *Polytrichum commune* were also present.

This NVC community aligns with UKHab f2c upland flushes, fens, and swamps.

M25a mire qualifies as Annex 1 habitat 7130 *Blanket bogs*²⁴ and is considered to be of **international** conservation importance. M25b mire within the survey area lacked indicators of deep peat and is considered to be of **local** conservation importance.

3.3.10 M29 - *Hypericum elodes*-*Potamogeton polygonifolius* Soakway

The presence of the M29 soakway community (Quadrat 22) was restricted to the northeastern side of Lochan an Staic to the west of the SAR. This soakway was present amongst wet heathland and covered flat to gently sloping ground with water seeping towards the waterbody. The vegetation height was short and the ground layer was dominated by *Sphagnum palustre* and *S. papillosum*, and the soil moisture condition was wet to fully inundated. Few flowered sedge (*Carex pauciflora*) was frequent, and common cottongrass, purple moor-grass, lesser spearwort, bulbous rush, marsh violet, and bog pondweed occurred occasionally. Devil's bit scabious and marsh bedstraw were recorded rarely.

This NVC community aligns with UKHab f2c upland flushes, fens, and swamps.

The M29 soakway community qualifies as SBL Priority Habitat *Upland Flushes, Fens, and Swamps*²⁵ and is considered to be of **national (Scottish)** conservation importance.

3.3.11 S9 - *Carex rostrata* Swamp

The S9 swamp community within the SAR is restricted to shallow, slow-flowing meanders of an outflow channel of the Lochan an Staic, and a small shallow pool on the northern bank of the Gearr Garry to the far west of the SAR. This community was dominated by bottle sedge (*Carex rostrata*), and had varied associate species, including occasional common spike rush, bog bean (*Menyanthes trifoliata*), lesser spearwort, bog pondweed, bulbous rush, common cottongrass, marsh violet, marsh bedstraw, and *Sphagnum fallax*.

This NVC community aligns with UKHab f2c upland flushes, fens, and swamps.

The S9 swamp meets the criteria for SBL Priority Habitat *Upland Flushes, Fens, and Swamp*²⁵s and is considered to be of **national (Scottish)** conservation importance.

3.3.12 U20 - *Pteridium aquilinum*-*Galium saxatile* Community

The bracken-dominated U20 community occurred sporadically throughout the SAR, and often formed a mosaic with surrounding heathland, mire, and woodland. It was present on dry to damp, free-draining soils and absent from wetter, impeded peaty soils. It was recorded within forestry rides, scattered amongst established and regenerated native woodland, and on prominent hummocks and watercourse banks within the open moorland areas.

This community ranged from species poor, where bracken was accompanied by little else, to more grassy and heathy varieties. To the west, bracken was often accompanied by heather, bilberry, cross-leaved heath, bog asphodel, devil's-bit scabious, heath woodrush, purple moor-grass, tormentil, heath bedstraw, and bryophytes *Dicranum scoparium*, *Hylocomium splendens*, and *Rhytidiadelphus loreus*.

Examples of this community within or adjacent to woodland, or on drier slopes surrounding watercourses was more diverse in grasses and forbs, with species including bluebell, common dog

²⁴ Annex 1 habitat 7130 Blanket bogs, available at <https://sac.jncc.gov.uk/habitat/H7130/> (Accessed September 2024)

²⁵ UK BAP Priority Habitat Description (Upland Flushes, Fens, and Swamps), available at [UK BAP Priority Habitat Descriptions \(Fen, Marsh & Swamp\) \(2008\) | JNCC Resource Hub](#) (Accessed September 2024)

violet, foxglove (*Digitalis purpurea*), wood anemone, Yorkshire fog, common bent (*Agrostis capillaris*), cock's-foot (*Dactylis glomerata*), sheep's-fescue, and sweet vernal-grass. The presence of woodland indicator species, including bluebell and wood anemone indicate that these bracken glades historically supported woodland.

This NVC community aligns with UKHab g1c bracken.

The U20 community is a common and widespread habitat in the Scottish uplands and is considered to be of **site** conservation importance.

3.3.13 U4 - *Festuca ovina*-*Agrostis capillaris*-*Galium saxatile* Grassland

U4 acid grassland (Quadrat 12) was relatively uncommon in the survey area and occurred as small, isolated patches within the western extent of the SAR. It was associated with well-drained, often disturbed soils, located on areas of previous development or on the stoney banks of the Gearr Garry.

The examples of this community were often species-rich, with and dominated by grasses. Constant species included common bent, red fescue, sweet vernal-grass, and heath bedstraw. Bryophytes were an important associate, often the most abundant species present, especially on damper example of this community, and include typical species of acid grassland such as *Pleurozium schreberi*, *Hylocomium splendens*, *Racomitrium lanuginosum*, *Rhytidadelphus squarrosus*, and *Polytrichum commune*. Forbs occurred occasionally and included common bird's foot-trefoil (*Lotus corniculatus*), tormentil, heath milkwort, common dog violet, common mouse-ear (*Cerastium fontanum*), germander speedwell (*Veronica chamaedrys*), and heath speedwell (*Veronica officinalis*). Other associate species were present, but rarely occurring, and included viviparous fescue, heath grass, purple moor-grass (within transitional zones), and carnation sedge (*Carex panicea*). Dwarf shrubs were infrequent and represented by heather and bilberry.

This NVC community aligns with UKHab g1b6 other upland acid grassland.

Species-rich grasslands are included in the Highland Nature BAP and is considered to be of **county** conservation importance.

3.3.14 W4 - *Betula pubescens*-*Molinia caerulea* Woodland

A small area of W4 woodland, represented by the W4c Sphagnum sub-community, occurred to the east of the survey area surrounding the Alt Rughe Bhlair watercourse. This woodland, situated on wet, peaty soils, was dominated by downy birch, with infrequent occurrence of grey willow. The ground layer was densely carpeted with *Sphagnum fallax*, *S. palustre*, and *Polytrichum commune*, forming a characteristic hummocky structure.

Purple moor-grass was abundant, and soft rush occurred frequent, while forb species were sparsely represented, with infrequent occurrences of tormentil and marsh violet, Ericoid shrubs, including bilberry, heather, and cross-leaved heath were also infrequent.

This W4c sub-community aligns with UKHab w1d wet woodland.

The W4c sub-community of W4 woodland is listed as SBL Priority Habitat *Wet Woodland*²⁶ and is considered to be of **national (Scottish)** conservation importance.

²⁶ UK BAP Priority Habitat Description (Wet Woodland), available at <https://hub.jncc.gov.uk/assets/2829ce47-1ca5-41e7-bc1a-871c1cc0b3ae#UKBAP-BAPHabitats-64-WetWoodland.pdf> (Accessed September 2024)

3.3.15 W9 - *Fraxinus excelsior* - *Sorbus aucuparia* - *Mercurialis perennis* Woodland

An example of woodland closest aligning with W9 woodland was present within the river gullies of the Allt na Cailliche and Allt Ruighe Bhlair watercourses to the east of the SAR. These gullies were moist, shaded, and the species composition indicated that the soils were more fertile than surrounding upland woodland habitat. These woodlands featured a rich canopy composition of native and non-native broadleaves, including beech (*Fagus sylvatica*), common alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*), birch (*Betula* spp.), rowan (*Sorbus aucuparia*), bird cherry (*Prunus padus*), goat willow (*Salix caprea*), sessile oak (*Quercus petraea*), common alder (*Alnus glutinosa*), and sycamore (*Acer pseudoplatinus*).

The field layer was dominated by Yorkshire fog, with abundant greater woodrush (*Luzula sylvatica*), bluebell, and frequent meadow buttercup (*Ranunculus acris*), germander speedwell, common dog violet, marsh sneezewort (*Achillea ptarmice*), wild strawberry (*Fragaria vesca*), bramble (*Rubus fruticosus* agg.), and various ferns including hard fern, scaly male fern (*Dryopteris filix-mas*), lady fern (*Athyrium filix-femina*), beech fern (*Phegopteris connectilis*), and narrow buckler fern (*Dryopteris filix-mas*).

The example of this NVC community within the survey area overlaps with UKHab w1f Lowland mixed deciduous woodland.

The woodland meets the criteria of SBL Priority Habitat *Lowland Mixed Deciduous Woodland*²⁷ and is considered to be of **national (Scottish)** conservation importance.

3.3.16 W11 *Quercus petraea*-*Betula pubescens*-*Oxalis acetosella* Woodland

An area of woodland (Quadrat 02) located to the east of the survey area did not fit well with any NVC community, and best represented W11 woodland, but with a canopy of co-dominant of birch (both downy and silver) and bird cherry (*Prunus padus*), alongside infrequent rowan, larch (*Larix* sp.) and hornbeam (*Carpinus betulus*). The canopy was closed, short, and the trees showed signs of past coppicing. Yorkshire fog was abundant within the field layer, alongside frequent wavy hair-grass, meadow buttercup, bluebell, heath bedstraw, and *Hylocomium splendens*. Common dog violet, wood sorrel, tormentil, cowberry, narrow buckler fern, and bracken occurred occasionally. Beach seedlings were present sparsely and had minimal influence on the overall community structure.

The example of this NVC community within the survey area overlaps with UKHab w1f Lowland mixed deciduous woodland.

The woodland meets the criteria of SBL Priority Habitat *Lowland Mixed Deciduous Woodland*²⁷ and is considered to be of **national (Scottish)** conservation importance.

3.3.17 W17 - *Quercus petraea*-*Betula pubescens*-*Dicranum majus* Woodland

W17 woodland (Quadrat 01, 05, 06, 15) was the predominant native woodland type within the survey area where it occurred most extensively to the east. This typically community forms on, damp, acid soils on flat to moderate gradient terrain. Downy birch was the dominant species, ranging from young, regenerating stands to more established, mature examples, particularly in areas aligned with ancient woodland. In the eastern part of the survey area near the River Garry, there was an example of mature sessile oak dominance within the community (Quadrat 15). Native tree diversity within the W17

²⁷ UK BAP Priority Habitat Description (Lowland Mixed Deciduous Woodland), available at <https://hub.jncc.gov.uk/assets/2829ce47-1ca5-41e7-bc1a-871c1cc0b3ae#UKBAP-BAPHabitats-64-WetWoodland.pdf> (Accessed September 2024)

woodland was relatively low, with rowan, grey willow, and occasional Scots pine present, though infrequently.

Non-native conifers, particularly Sitka spruce and shore pine (*Pinus contorta*), were commonly observed, particularly near areas of commercial forestry operations. A variant of this community appeared in transition zones between native woodland and plantation forestry, where young conifers had infiltrated the native woodland, leading to a mixed, co-dominated canopy structure. Rhododendron occurred occasionally within woodlands to the east, and at the trackside, where this habitat was more susceptible to human disturbance.

The field layer was generally dominated by ericoid shrubs, particularly heather and bilberry. In some stands, pleurocarpous mosses were the primary component. Key species include *Dicranum majus*, *Hylocomiadelphus triquetrus*, *Hylocomium splendens*, *Kimbergia praelonga*, *Pleurozium schreberi*, *Plagiothecium undulatum*, *Pseudoscleropodium purum*, *Ptilium crista-castrensis*, and *Rhytidiadelphus loreus*. Grasses and forbs were less frequent, though species such as honeysuckle (*Lonicera periclymenum*), ivy (*Hedera helix*), heath bedstraw, tormentil, and wood sorrel occurred occasionally. Bracken was conspicuous in some mature oak stands, particularly near the River Garry, and in some early successional stands. Other ferns, such as hard fern and narrow buckler fern were typically infrequent.

Examples of birch-dominated W17 align with SBL Priority Habitat *Upland Birchwood*²⁸ and are considered to be important at a national (Scottish) level. This NVC community variety aligns with UKHab w1e upland birchwoods.

The small, oak dominated extent of W17 along the River Garry to the east meets the definition of Annex 1 habitat 91A0 *Old sessile oak woods with Ilex and Blechnum in the British Isles*²⁹ and is considered to be of **international** conservation importance. This NVC community variety aligns with UKHab w1e western acid oak woodland.

3.3.18 W18 - *Pinus sylvestris*-*Hylocomium splendens* Woodland

The second most abundant native woodland type within the survey area was the Scot's pine-dominated W18 woodland (Quadrat 03, 04, and 09). This woodland community generally aligned with the Caledonian Pinewood Inventory's core and regeneration zones. However, some of these core zones were not predominantly Scot's pine. Instead, they exhibited characteristics closer to birch-dominated W17 woodland, or even a form of birch-dominated W18 woodland. Downy birch and rowan were typically present within the W18 canopy and shrub layer but were reduced in coverage, comparatively.

Within the survey area, the W18 woodland varied significantly in age, ranging from younger woodlands lacking mature specimens to ancient woodlands with veteran trees. These woodlands also occurred across a range of soil conditions. On drier, free-draining soils, the W18b *Vaccinium myrtillus*-*Deschampsia flexuosa* sub-community was prevalent, characterised by the dominance of ericoid shrubs. In wetter, poorly drained soils, the W18d *Erica cinerea* sub-community was present, where Sphagnum mosses, purple-moor grass, and other peat-associated species were more evident.

In many cases, areas of Scot's pine plantations with well-established ground flora met the criteria for this woodland community. The W18 woodland frequently formed close associations with W17 woodland, making it difficult to clearly define boundaries between the two. Additionally, it was closely

²⁸ UK BAP Priority Habitat Description (Upland Birchwoods), available at <https://hub.jncc.gov.uk/assets/2829ce47-1ca5-41e7-bc1a-871c1cc0b3ae#UKBAP-BAPHabitats-64-WetWoodland.pdf> (Accessed September 2024)

²⁹ Annex 1 Habitat 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles, available at: [Western acidic oak woodland \(Old sessile oak woods with Ilex and Blechnum in the British Isles\) - Special Areas of Conservation \(jncc.gov.uk\)](#) (Accessed September 2024)

associated with M15 wet heath and M25a mire, which carpeted glades and created a complex mosaic of habitats.

Species recorded within the W18b sub-community field layer were consistent with the species list presented in the W17 woodland section, above (Section 3.3.15).

Species recorded within the W18d sub-community field layer included abundant purple moor-grass, frequent heather, cross-leaved heath, bog myrtle, bilberry, carnation sedge, *Hylocomium splendens*, *Sphagnum capillifolium*, *S. fallax*, and *S. quinquefarium*. Occasionally occurring species included cowberry, tormentil, marsh violet, soft rush, *Pleurozium schreberi*, *Dicranum scoparium*, *Hypnum jutlandicum*. Rarely, there were instances of hare's-tail cottongrass (locally frequent); however, this was restricted to the wettest examples.

Young examples of W18 woodland which were located outside of the Caledonian Pinewood Inventory core zone are considered to meet the criteria for SBL Priority Habitat *Native Pinewoods* and are considered to be important at a national (Scottish) level. W18 woodland in these areas align with UKHab w2a native pine woodlands.

Stands of W18 woodland located within the Caledonian Pinewood Inventory core zones, and other examples within the regeneration zone which exhibited veteran pine trees, are considered to meet the criteria of Annex 1 habitat 91C0 *Caledonian forest*³⁰ and is considered to be of **international** conservation importance. W18 woodland in these areas align with UKHab w2a5 Caledonian forest.

3.3.19 W23 - *Ulex europaeus*-*Rubus fruticosus* Scrub,

W23 scrub occurred as a few isolated patches across the survey area, where it occurred on previous disturbed ground on the edge of forestry tracks, and colonising river shingle on the Gearr Garry. This scrub was dominated by broom (*Ulex europaeus*), and a sparse field layer with bramble, bracken, and other species in common with U4 grassland (Section 3.3.12).

W23 scrub is considered to be of **site** conservation importance.

3.4 Non NVC Communities

While the NVC system is primarily used to classify semi-natural habitats in the UK, it can also be applied to other types of vegetation, including managed or modified habitats such as plantations, grasslands, and even some highly disturbed areas. However, the system is most effective when applied to vegetation that is relatively natural or has developed under minimal human influence. Habitats which could not assigned to a NVC community have been described below using their UKHab code.

3.4.1 g4 - Modified Grassland

Modified grassland was observed around a residential building to the east of the survey area and near the sheepfold west of the Allt Ladaidh. This grassland was characterised by common species such as Yorkshire fog, perennial ryegrass (*Lolium perenne*), and *Rhynchospora squarrosus*. Forb species included creeping buttercup and white clover (*Trifolium repens*).

³⁰ Annex 1 habitat 91C0 Caledonian forest, available at: [Caledonian forest \(Caledonian forest\) - Special Areas of Conservation \(jncc.gov.uk\)](https://jncc.gov.uk) (Accessed September 2024)

Modified grassland is considered to be of **site** conservation importance.

3.4.2 w2b – Other Scot’s Pine Woodland

A variety of Scot’s pine plantation was present occasionally across the survey area which lacked the ground flora of W18 woodland (Section 3.3.16). Here, the trees were closely planted, and the field layer was species-poor, with bryophytes forming the main component.

Other Scot’s pine woodland is considered to be of **site** conservation importance.

3.4.3 w2c - Other Coniferous Woodland

Conifer plantations were the most frequently occurring woodland type across the survey area, typically appearing as even-aged stands planted in regimented rows. These plantations predominantly consisted of young to semi-mature Sitka spruce, with less frequent occurrences of Norway spruce, shore pine, and larch. The ground flora within these stands varied depending on light availability, with dense stands supporting little more than common bryophytes, occasional grasses, and ferns.

The most species-rich ground flora was found in more established larch and Norway spruce stands, which were likely excluded from regular commercial forestry rotations. These stands provided better conditions for biodiversity compared to younger or denser stands typically managed for timber production.

Areas of clear-fell plantation with establishing successional vegetation have been classified within this habitat type, provided that are designated for future forestry planting. Where these areas are not scheduled for re-planting or further rotation, the vegetation composition is described within Section 3.4.4, below.

Non-native conifer plantations are common and widespread within the Scottish Highlands and are considered to be of **site** conservation importance.

3.4.4 h1b - Upland Heathland

The UKHab code h1b Upland Heathland was used to classify the early successional heathy vegetation that has developed over areas of clear-felled forestry. This habitat classification applies to areas not scheduled for replanting or further forestry rotation, as detailed in the Forestry Commission Scotland (FLS) Garry Forest Felling Plan³¹, where the successional heathland may continue to establish and mature. Much of this vegetation on-site has been developing for over a decade, forming a thick layer over the underlying brash and stumps, which also enclose drainage ditches and pools. These habitats can support species typical of heathland, peatland, and woodland edge ecosystems.

The habitat exists as a complex mosaic of wet and dry microhabitats, depending on peat coverage and the presence of hummocky glacial till deposits. The vegetation sward showed no clear species dominance, but is instead characterised by a variety of species that adapt to the emerging conditions. Common species within the habitat, though not necessarily situated adjacently, included heather, bell heather, bilberry, cross-leaved heath, wavy hair-grass, red fescue, viviparous fescue, heath bedstraw, tormentil, marsh violet, chickweed wintergreen, hard fern, male fern, soft rush, star sedge, *Polytrichum commune*, *Sphagnum capillifolium*, *S. fallax*, *Hylocomium splendens*, *Pleurozium schreberi*, and

³¹ Forestry Commission Scotland (2013) Garry Forest Felling Plan 2013-2023. Available at: https://forestryandland.gov.scot/media/lecifon/1_garry_felling_plan_2013_a1_final.pdf (Accessed September 2024)

Cladonia portentosa. Woody species, including gorse, birch, Sitka spruce, Scot's pine, shore pine, rowan were often present, and often represented an early transition to woodland,

In the absence of further forestry management or replanting, these successional habitats can develop into more stable heathland and upland woodlands. The example of upland heathland habitat present on site is considered to be of **site** conservation importance.

3.4.5 f2c Upland Flushes, Fens, and Swamps

The UKHab code f2c Flushes, Fens, and Swamps was used to classify areas of early successional wetland habitat that had established on peat over clear-felled areas but could not be classified using the NVC system. In these areas, wetland species such as soft rush, purple moor-grass, heather, cross-leaved heath, hare's-tail cotton grass, common cotton grass, *Sphagnum fallax*, *S. capillifolium*, and *Polytrichum commune* were commonly present. However, these species did not form a sufficiently cohesive composition to be categorised as a specific bog, wet heath, or mire NVC community.

In the absence of further forestry management or replanting, these successional wetland habitats have the potential to transition into more stable bog or wetland habitats over time. The Upland Flushes, Fens, and Swamp habitat identified over clear-felled areas on site is considered to be of **site** conservation importance.

3.4.6 s1 - Inland Rock

The UKHab code s1 Inland Rock was used to classify active and inactive open quarry areas located across the site. These habitats were sparsely vegetated with early successional on the quarry floor and colonising the cracks and fissures of the rock faces. Species recorded in the quarries included sheep's fescue, wavy hair-grass, common bent, heather, bell heather, colt's-foot (*Tussilago farfara*), New Zealand willowherb (*Epilobium brunnescens*), *Racomitrium lanuginosum*, *Pohlia nutans* and lichen *Rhizocarpon geographicum*. Pioneer tree seedlings and saplings were present within the inactive quarries, including downy birch, rowan, goat willow, and Sitka spruce.

Inland rock habitat within the survey area is considered to be of **site** conservation importance.

3.4.7 u1b5 – Buildings

A residential building is located to the east of the survey area.

Buildings are considered to be of **negligible** conservation importance.

3.4.8 u1b6 - Other Developed Land

The gravel track along the central and eastern section of the SAR route, and the asphalt main road which leads to the PSH area and is intercepted by the survey area to the west are categorised by this UKHab habitat.

Developed land – Sealed Surface is considered to be of **negligible** conservation importance.

3.5 Groundwater Dependent Terrestrial Ecosystem Evaluation

This section should be read in conjunction with Appendix G: GWDTE Plan

The following table outlines the NVC communities recorded within the survey area which have an assigned potential GWDTE status, as per SEPA guidelines.

Table 3-2: NVC Communities with Potential Groundwater Dependence

NVC Community	UKHab Habitat	SEPA GWDTE Assessment
M6 - <i>Carex echinata</i> - <i>Sphagnum recurvum/auriculatum</i> mire	f2c Upland flushes, fens, and swamps	Highly Groundwater Dependent
M15 - <i>Scirpus cespitosus</i> - <i>Erica tetralix</i> wet heath	h1b6 Wet Heathland with Cross-Leaved Heath - Upland	Moderately Groundwater Dependant
M23 - <i>Juncus effusus</i> - <i>Galium palustre</i> rush-pasture	f2c Upland flushes, fens, and swamps	Highly Groundwater Dependent
M25 - <i>Molinia caerulea</i> - <i>Potentilla erecta</i> mire	f2c Upland flushes, fens, and swamps	Moderately Groundwater Dependant
M29 - <i>Hypericum elodes</i> - <i>Potamogeton polygonifolius</i> soakway	f2c Upland flushes, fens, and swamps	Highly Groundwater Dependent
W4 - <i>Betula pubescens</i> - <i>Molinia caerulea</i> woodland,	w1d Wet woodland	Highly Groundwater Dependent

No spring or diffuse groundwater emergence features were identified on Ordnance Survey 1:25,000 maps or the Scotland's Environmental Map during the desk study. Similarly, no spring or diffuse groundwater emergence features were recorded during the field survey. Furthermore, floristic indicators of base-enriched environments were typically absent from the above noted NVC communities, with the exception of mosses indicative of base-rich conditions occurring within M6 mire. Base-rich indicator species are often linked to groundwater emerging from calcium-rich geological formations.

The hummocky glacial till which is the primary superficial deposit across the SAR route is comprised of poorly sorted sand and gravel which typically have low permeability, and the poorly sorted nature of the deposits can limit water movement, reducing overall potential for groundwater movement. The alluvial deposits along watercourse corridors could offer better groundwater potential in localised areas. Alluvium can be more permeable than glacial deposits, allowing for the storage and movement of groundwater.

The predominant bedrock listed for the SAR route is metamorphic psammite. Psammite typically has a low permeability due to its dense nature, and groundwater in this rock type is typically restricted to fractures and fault lines, which create pathways for groundwater flow. The presence of a fault line near Glen Kingie could enhance groundwater potential in that area, as faults often create pathways for groundwater flow. The igneous intrusion which occurs across the site, particularly aligning with watercourse corridors, generally have low permeability. However, these formations can have fractures which may aid groundwater movement, particularly where watercourses have developed along the boundaries due to the rock's differential erosion patterns. The presence of the West Highland Granite Gneiss Intrusion likely further reduces groundwater potential in that area due to the impermeable nature of granite; however, as before, groundwater can be localised within fractures or at the interface between bedrock types.

Based on the geological description, it is unlikely that there are significant GWDTEs within the site. All bedrock types within this area are classified as low productivity aquifers meaning that groundwater flow and storage are limited. GWDTEs rely on consistent groundwater flow or seepage to maintain moisture levels, and the bedrock is typically impermeable and does not allow for widespread groundwater availability across the site.

Therefore, potential GWDTEs recorded within the survey area which cover expansive areas, including M15 wet heath and M25 mire are considered to be likely surface fed and not primarily dependent on groundwater.

M6 mire located to the west of the Allt Ladaidh to the east of the survey area included weak indicators of base enrichment possibly derived from a groundwater source. *Calliergonella cuspidate* and *Philonotis fontana* are indicator of slightly alkaline to neutral soils. The superficial deposits⁷ here show a small accumulation of peat surrounded by glacial deposits. This mire community is present within the West Highland Granite Gneiss Intrusion. It is considered that this area of M6d mire may be partially fed by groundwater; however, it's extent is very localised.

The small section of M6 within the site compound area is directly connected to a watercourse, and this wetland is likely sustained by elevated soil moisture conditions resulting from its proximity to the watercourse. Additionally, it may be partially fed by flooding during spate conditions that affect this flatter section of ground.

M23 rush-pasture was typically associated within surface flow, particularly within ditches and on the margins of minor watercourses.

The M29 soakway community often occurs where groundwater emerges; however, it can also occur in peaty pools with fluctuating water levels. The M29 soakway community within the survey area is present near the margins of Lochan an Staic and is the underlying superficial deposits is peat. It is likely that this community is fed predominantly Lochan an Staic, and not primarily by groundwater.

A restricted section of W4 woodland is present to the east of the survey area. This habitat occurs within on low lying, flat ground with impeded drainage, surrounding the Alt Rughe Bhlair watercourse. There is a fault line located within 150m of this woodland, and it is considered that this woodland could be partially or fully ground water dependence.

3.6 Priority Peatland

This section should be considered in conjunction with Section 3.1.5 Superficial Deposits.

Class 1 peatland within the survey area is limited and occurs as small, scattered pockets predominantly in the eastern section of the SAR. The main habitat type present in these areas is M17 blanket bog, a high-quality peatland community that is generally considered a priority for conservation and restoration in line with NatureScot's guidance on peatland protection³².

Class 2 peatland is more widely distributed across the survey area, primarily located in the western extent of the SAR, beyond the boundaries of the Glen Garry Forest. Within the forested region, Class 2 peatlands are found in a few open spaces between forestry blocks. These deposits predominantly support habitats such as M15 wet heath, M25a mire, and M17 blanket bog, with occasional bog pools present in the far western section.

³² NatureScot (2023) Advising on peatland, carbon-rich soils and priority peatland habitats in development management. Available at [Advising on peatland, carbon-rich soils and priority peatland habitats in development management \(nature.scot\)](#) (Accessed September 2024)

3.6.1 Priority Peatland Classification

M17 blanket mire: This community is generally recognized as priority peatland under NatureScot's guidelines, particularly when occurring on deep peat (>50 cm). Its status as a priority peatland means that any developments proposed in these areas would need to be carefully assessed for their impacts on peatland integrity and carbon sequestration potential.

M15 wet heath and M25a mire: These habitats, when found on deep peat (>50 cm), may represent degraded peatland. While these degraded communities are less likely to be classified as priority peatland, they still play a role in the broader peatland ecosystem and might be considered for restoration if conditions permit. Conversely, where M15 wet heath and M25a mire occur on thinner peats or peaty soils (<50 cm), they are more likely to be naturally occurring rather than a consequence of anthropogenic disturbance and may not meet the criteria for priority peatland.

3.6.2 Peat Erosion Features

Peat erosion is generally infrequent within the survey area. However, peat haggings are evident in two notable locations:

- In the M17b blanket mire community near the centre of the SAR, adjacent to Meall Coire Each (Quadrat 11).
- In the far western extent of the survey area, closer to the Loch Quoich dam (Quadrat 13).

These erosion features suggest localised areas of peat degradation that may require targeted management to prevent further erosion and to support the natural regeneration of the peatland habitat.

APPENDICES

A GEOGRAPHICAL LEVEL OF IMPORTANCE OF ECOLOGICAL FEATURES

Level of Importance	Sites	Habitats	Species
International	Designated, candidate or proposed Special Areas of Conservation, Special Protection Areas and Ramsar sites; UNESCO (Ecological) World Heritage Sites; UNESCO Biosphere Reserves; Biogenetic Reserves.	A viable area of habitat included in Annex I of the EC Habitats Directive; a habitat area that is critical for a part of the life cycle of an internationally important species.	A European Protected Species; an IUCN Red Data Book species that is globally Vulnerable, Endangered or Critically Endangered; a Category A internationally important bryophyte assemblage ³³ .
National (UK)	Sites of Special Scientific Interest/Areas of Special Scientific Interest; National Nature Reserves; Nature Conservation Review Sites; Marine Conservation Zones (UK offshore).	An area of habitat fulfilling the criteria for designation as an SSSI/ASSI or MCZ; a habitat area that is critical for a part of the life cycle of a nationally important species.	An IUCN Red Data Book species that is Vulnerable, Endangered or Critically Endangered in the UK; a species that is Rare in the UK (<15 10km grid squares); a Schedule 5 ³⁴ (animal) or Schedule 8 (plant) species included in the Wildlife and Countryside Act 1981; any species protected under national (UK) legislation where there is the potential for a breach of the legislation; a Category A nationally important bryophyte assemblage ³⁵ ; a species that is Vulnerable, Endangered or Critically Endangered in The Vascular Plant Red Data List for Great Britain ³⁶ .
National (England, Scotland, Wales, Northern Ireland)	National Parks (England, Scotland, Wales); Natural Heritage Areas (Ireland); Marine Conservation Zones (England and Wales inshore); Marine Protected Areas (Scotland offshore); Marine Consultation Areas	Habitats of principal importance for biodiversity in the relevant countries ³⁷ , including; Scottish Biodiversity List (SBL) Priority Habitats, Priority Marine	Species of principal importance for biodiversity in the relevant countries ³⁹ , including: SBL Priority Species and PMFs (Scotland); Species of Principal Importance for Conservation (England); Section 7 list of Species of Principal

³³ Averis, A.B.G, Genney, D.R, Hodgetts, N.G, Rothero, G.P. & Bainbridge, I.P. 2012. Bryological assessment for hydroelectric schemes in the west highlands – 2nd edition. Scottish Natural Heritage Commissioned Report No. 449b

³⁴ <https://www.legislation.gov.uk/ukpga/1981/69/schedule/5/enacted>

³⁵ Averis, A.B.G, Genney, D.R, Hodgetts, N.G, Rothero, G.P. & Bainbridge, I.P. 2012. Bryological assessment for hydroelectric schemes in the west highlands – 2nd edition. Scottish Natural Heritage Commissioned Report No. 449b

³⁶ Cheffings, C.M. & Farrell, L. (eds), Dines, T.D., Jones, R.A., Leach, S.J., McKean, D.R., Pearman, D.A., Preston, C.D., Rumsey, F.J., Taylor, I. (2005) *The Vascular Plant Red Data List for Great Britain. Species Status No. 7*. JNCC, Peterborough. Available at: <https://hub.jncc.gov.uk/assets/cc1e96f8-b105-4dd0-bd87-4a4f60449907> (accessed 08/09/2020)

³⁷ These are all the habitats that were identified as requiring action in the UK Biodiversity Action Plan and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework, including any additions.

³⁹ These are all the species that were identified as requiring action in the UKBAP and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework, including any additions.

Level of Importance	Sites	Habitats	Species
	(Scotland); Marine Nature Reserves (Wales, Northern Ireland); Sensitive Marine Areas (England); Heritage Coasts (England and Wales).	Features (PMFs) ³⁸ and ancient woodland (Scotland); Habitats of Principal Importance for Conservation (England); Section 7 list of Habitats of Principal Importance for Conservation (Wales); Northern Ireland (NI) Priority Habitats (NI).	Importance for Conservation (Wales); NI Priority Species (NI).
Regional	Regional Parks (Scotland).	Regional Local Biodiversity Action Plan habitats noted as requiring protection.	A species that is Nationally Scarce in the UK (present in 16-100 10km grid squares); a species that is included in the Regional LBAP; an assemblage of regionally scarce species.
County / Metropolitan	Local Nature Reserves; Wildlife Trust Reserves (England and Wales); Woodland Trust Sites; Royal Society for the Protection of Birds Sites; Local Wildlife Sites (Scotland).	County LBAP habitats noted as requiring protection.	A species that is included in the County LBAP; an assemblage of species that are scarce at the county level.
Local		Semi-natural habitats that are unique or important in the local area.	Species as defined by Local Authority lists (if available).
Site		Common and widespread habitats not covered above.	Common and widespread species not covered above.
Negative			An Invasive Non-Native Species (INNS) as defined by the GB Non-Native Species Secretariat (NNSS) and supported by the GB Invasive Non-native Species Strategy (2015); legally controlled species under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended by the relevant country legislation).

³⁸ In July 2014, Scottish Ministers adopted a list of 81 priority marine features (PMFs) – many of which are features characteristic of the Scottish marine environment. Most are on other conservation status lists so may be valued higher than this.

B NVC QUADRAT FLORISTIC TABLES

Quadrat 01		Grid Reference: NH2830401277
UKHab Code: w1e Upland Birchwoods		Altitude: 70m
NVC Community: W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland		
Potential Ground Water Dependence: N/A		
Priority Habitat: Upland Birchwoods		
Scientific Name	Common Name	Abundance
<i>Betula pubescens</i>	Birch Early Mature	8
<i>Hylocomium splendens</i>	Glittering Woodmoss	6
<i>Rhytidiadelphus loreus</i>	Little Shaggy-moss	5
<i>Pleurozium schreberi</i>	Schreber's Big Red Stem Moss	5
<i>Sphagnum fallax</i>	Flat-topped Bog-moss	5
<i>Vaccinium myrtillus</i>	Bilberry	4
<i>Calluna vulgaris</i>	Heather	4
<i>Lonicera periclymenum</i>	Honeysuckle	4
<i>Kimbergia praelonga</i>	Common Feather-moss	4
<i>Polytricum commune</i>	Common Haircap	3
<i>Salix</i> sp.	Willow Sapling	3
<i>Sorbus aucuparia</i>	Rowan Seedling	3
<i>Rhododendron ponticum</i>	Rhododendron	3
<i>Blechnum spicant</i>	Hard Fern	2
<i>Avenella flexuosa</i>	Wavy Hair-grass	2
<i>Dicranum majus</i>	Greater Fork-moss	2
<i>Hylocomiadelphus triquetrus</i>	Big Shaggy-moss	2
<i>Ptilium crista-castrensis</i>	Ostrich-plume Feather-moss	2
<i>Populus tremula</i>	Aspen Seeding	2
<i>Tsuga heterophylla</i>	Western Hemlock Seeding	2
<i>Picea sitchensis</i>	Sitka Spruce Seeding	2

Quadrat 02		Grid Reference: NH2815500686
UKHab Code: w1f Lowland Mixed Deciduous Woodland		Altitude: 65m
NVC Community: W11 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Oxalis acetosella</i> woodland		
Potential Ground Water Dependence: N/A		
Priority Habitat: Lowland Mixed Deciduous Woodland		
Scientific Name	Common Name	Abundance
<i>Ptilium crista-castrensis</i>	Ostrich-plume Feather-moss	6
<i>Holcus lanatus</i>	Yorkshire fog	6
<i>Prunus padus</i>	Bird Cherry	6
<i>Betula pubescens</i>	Birch Young	6
<i>Hylocomium splendens</i>	Glittering Woodmoss	4
<i>Avenella flexuosa</i>	Wavy Hair-grass	4

<i>Ranunculus acris</i>	Meadow buttercup	4
<i>Hyacinthoides non-scripta</i>	Bluebell	4
<i>Galium saxatile</i>	Heath Bedstraw	4
<i>Betula pendula</i>	Silver Birch Semi-mature	4
<i>Viola riviniana</i>	Dog violet	3
<i>Oxalis acetosella</i>	Wood Sorrel	3
<i>Larix sp.</i>	Larch	3
<i>Rhytidiadelphus loreous</i>	Little Shaggy-moss	2
<i>Dryopteris carthusiana</i>	Narrow buckler fern	2
<i>Potentilla erecta</i>	Tormentil	2
<i>Sorbus aucuparia</i>	Rowan Young	2
<i>Carpinus betulus</i>	Hornbeam	2
<i>Vaccinium vitis-idaea</i>	Cowberry	2
<i>Polytricum commune</i>	Common Haircap	1
<i>Fagus sylvatica</i>	Beech sapling	1
<i>Pteridium aquilinum</i>	Bracken	1

Quadrat 03		Grid Reference: NH2652500417
UKHab Code: w2a Native pine woodlands		Altitude: 192m
NVC Community: W18d <i>Pinus sylvestris</i> – <i>Hylocomium splendens</i> woodland, <i>Sphagnum capillifolium/quinquifarium</i> – <i>Erica tetralix</i> sub-community		
Potential Ground Water Dependence: N/A		
Priority Habitat: Native Pine Woodlands		
Annex 1: 91C0 Caledonian forest		
Scientific Name	Common Name	Abundance
<i>Molinia caerulea</i>	Purple Moor-grass	9
<i>Pinus sylvestris</i>	Scots Pine Young	8
<i>Calluna vulgaris</i>	Heather	5
<i>Myrica gale</i>	Bog myrtle	4
<i>Erica tetralix</i>	Cross-leaved Heath	3
<i>Hylocomium splendens</i>	Glittering Woodmoss	3
<i>Sorbus aucuparia</i>	Rowan Seedling	3
<i>Sphagnum fallax</i>	Flat-topped Bog-moss	3
<i>Sphagnum capillifolium</i>	Acute-leaved Bog-moss	3
<i>Vaccinium myrtillus</i>	Bilberry	3
<i>Betula pubescens</i>	Downy Birch Early Mature	2
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	2
<i>Juniperus communis</i>	Common Juniper	2
<i>Pinus sylvestris</i>	Scots Pine Mature	2
<i>Potentilla erecta</i>	Tormentil	2
<i>Vaccinium vitis-idaea</i>	Cowberry	2
<i>Cladonia portentosa</i>	Raindeer Lichen	1
<i>Sphagnum palustre</i>	Blunt-leaved Bog-moss	1

Quadrat 04		Grid Reference: NH2623800885
UKHab Code: w2a Native pine woodlands		Altitude: 199m
NVC Community: W18d <i>Pinus sylvestris</i> – <i>Hylocomium splendens</i> woodland, <i>Sphagnum capillifolium/quinquenarium</i> – <i>Erica tetralix</i> sub-community		
Potential Ground Water Dependence: N/A		
Priority Habitat: Native Pine Woodlands		
Annex 1: 91C0 Caledonian forest		
Scientific Name	Common Name	Abundance
<i>Pinus sylvestris</i>	Scots Pine Young	8
<i>Hylocomium splendens</i>	Glittering Woodmoss	7
<i>Molinia caerulea</i>	Purple Moor-grass	6
<i>Vaccinium myrtillus</i>	Bilberry	6
<i>Sphagnum fallax</i>	Flat-topped Bog-moss	5
<i>Betula pubescens</i>	Downy Birch Early Mature	4
<i>Pleurozium schreberi</i>	Schreber's Big Red Stem Moss	4
<i>Sorbus aucuparia</i>	Rowan Seedling	3
<i>Betula pubescens</i>	Downy Birch Young	3
<i>Betula pubescens</i>	Downy Birch Seedling	3
<i>Polytrichum commune</i>	Common Haircap	3
<i>Vaccinium vitis-idaea</i>	Cowberry	2
<i>Aulacomnium palustre</i>	Bog Bead-moss	2
<i>Pinus sylvestris</i>	Scots Pine Semi-mature	2

Quadrat 05		Grid Reference: NH2575801064
UKHab Code: w1e Upland Birchwoods		Altitude: 172m
NVC Community: W17 <i>Quercus petraea</i> – <i>Betula pubescens</i> – <i>Dicranum majus</i> woodland		
Potential Ground Water Dependence: N/A		
Priority Habitat: Upland Birchwoods		
Scientific Name	Common Name	Abundance
<i>Vaccinium myrtillus</i>	Bilberry	9
<i>Thuidium tamariscinum</i>	Common Tamarisk-moss	7
<i>Hylocomium splendens</i>	Glittering Woodmoss	7
<i>Betula pubescens</i>	Birch Semi-mature	6
<i>Ptilium crista-castrensis</i>	Ostrich-plume Feather-moss	4
<i>Betula pubescens</i>	Birch Young	4
<i>Sorbus aucuparia</i>	Rowan Young	4
<i>Pleurozium schreberi</i>	Schreber's Big Red Stem Moss	4
<i>Pinus sylvestris</i>	Scot's Pine Semi-Mature	4
<i>Rhytidiadelphus loreous</i>	Little Shaggy-moss	3
<i>Oxalis acetosella</i>	Wood sorrel	2
<i>Sphagnum fallax</i>	Flat-topped Bog-moss	2
<i>Vaccinium myrtillus</i>	Bilberry	9
<i>Thuidium tamariscinum</i>	Common Tamarisk-moss	7

Quadrat 06		Grid Reference: NH2383400479
UKHab Code: w1e Upland Birchwoods		Altitude: 211m
NVC Community: W17 <i>Quercus petraea</i> – <i>Betula pubescens</i> – <i>Dicranum majus</i> woodland		
Potential Ground Water Dependence: N/A		
Priority Habitat: Upland Birchwoods		
Scientific Name	Common Name	Abundance
<i>Vaccinium myrtillus</i>	Bilberry	7
<i>Thuidium tamariscinum</i>	Common Tamarisk-moss	7
<i>Hylocomium splendens</i>	Glittering Woodmoss	7
<i>Betula pubescens</i>	Birch Young	7
<i>Ptilium crista-castrensis</i>	Ostrich-plume Feather-moss	5
<i>Pleurozium schreberi</i>	Schreber's Big Red Stem Moss	5
<i>Pseudoscleropodium purum</i>	Neat Feather-moss	4
<i>Sorbus aucuparia</i>	Rowan Semi-Mature	4
<i>Avenella flexuosa</i>	Wavy Hair-grass	3
<i>Sorbus aucuparia</i>	Rowan seedling	3
<i>Betula pubescens</i>	Birch Mature	3
<i>Pinus sylvestris</i>	Scot's Pine Semi-Mature	2
<i>Rhytidiadelphus loreous</i>	Little Shaggy-moss	2
<i>Picea sitchensis</i>	Sitka Spruce Seeding	2
<i>Plagiothecium undulatum</i>	Waved Silk-moss	2
<i>Dicranum majus</i>	Greater Fork-moss	1
<i>Molinia caerulea</i>	Purple Moor-grass	1

Quadrat 07		Grid Reference: NH2357600343
UKHab Code: f1a5 Blanket Bog		Altitude: 214m
NVC Community: M17a <i>Trichophorum cespitosum</i> - <i>Eriophorum vaginatum</i> blanket mire, <i>Drosera rotundifolia</i> - <i>Sphagnum</i> species sub-community		
Potential Ground Water Dependence: N/A		
Priority Habitat: Blanket Bog		
Annex 1 Habitat: 7130 Blanket bogs		
Scientific Name	Common Name	Abundance
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	7
<i>Sphagnum capillifolium</i>	Acute-leaved Bog-moss	6
<i>Sphagnum denticulatum</i>	Cow-horn Bog-moss	6
<i>Calluna vulgaris</i>	Heather	5
<i>Erica tetralix</i>	Cross-leaved heath	5
<i>Myrica gale</i>	Bog-myrtle	5
<i>Sphagnum papillosum</i>	Papillose Bog-moss	4
<i>Narthecium ossifragum</i>	Bog Asphodel	3
<i>Sphagnum cuspidatum</i>	Feathery Bog-moss	3
<i>Molinia caerulea</i>	Purple Moor-grass	2

<i>Pleurozia purpurea</i>	Purple Spoonwort	2
<i>Racomitrium lanuginosum</i>	Woolly Fringemoss	2
<i>Sphagnum fallax</i>	Flat-Topped Bogmoss	2
<i>Sphagnum tenellum</i>	Soft Bog-moss	2
<i>Trichophorum cespitosum</i>	Northern Deergrass	2

Quadrat 08		Grid Reference: NH2263700327
UKHab Code: f2c Upland flushes, fens, and swamps		Altitude: 201m
NVC Community: M6d - <i>Carex echinata</i> - <i>Sphagnum recurvum/auriculatum</i> Mire - <i>Juncus effusus</i> sub-community.		
Potential Ground Water Dependence: Highly Groundwater Dependent		
Priority Habitat: Upland Flushes, Fens, and Swamps		
Scientific Name	Common Name	Abundance
<i>Juncus effusus</i>	Soft-rush	8
<i>Calliergonella cuspidata</i>	Pointed Spear-moss	5
<i>Philonotis fontana</i>	Fountain Apple-moss	5
<i>Sphagnum palustre</i>	Blunt-leaved Bog-moss	5
<i>Viola palustris</i>	Marsh Violet	4
<i>Brachythecium rivulare</i>	River Feather-moss	4
<i>Sphagnum fallax</i>	Flat-topped Bog-moss	4
<i>Holcus lanatus</i>	Yorkshire-fog	3
<i>Ranunculus repens</i>	Creeping Buttercup	3
<i>Prunella vulgaris</i>	Selfheal	3
<i>Potentilla erecta</i>	Tormentil	3
<i>Dichodontium palustre</i>	Marsh Forklet-moss	3
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	2
<i>Stellaria alsine</i>	Lesser Chickweed	2
<i>Cardamine flexuosa</i>	Wavy Bitter-cress	2
<i>Pellia epiphylla</i>	Overleaf Pellia	2
<i>Polytrichum commune</i>	Common Haircap	2

Quadrat 09		Grid Reference: NH2207000292
UKHab Code: w2a Native Pinewoods		Altitude: 199m
NVC Community: W18d <i>Pinus sylvestris</i> - <i>Hylocomium splendens</i> woodland, <i>Sphagnum capillifolium/quinguefarium</i> - <i>Erica tetralix</i> sub-community		
Potential Ground Water Dependence: N/A		
Priority Habitat: Native Pine Woodlands		
Scientific Name	Common Name	Abundance
<i>Sphagnum fallax</i>	Flat-topped Bog-moss	8
<i>Pinus sylvestris</i>	Scots Pine Young	6
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	5
<i>Sphagnum palustre</i>	Blunt-leaved Bog-moss	5
<i>Carex panacea</i>	Carnation Sedge	5
<i>Juncus effusus</i>	Soft Rush	5
<i>Vaccinium myrtillus</i>	Bilberry	4

<i>Betula pubescens</i>	Downy Birch Early Mature	4
<i>Calluna vulgaris</i>	Heather	4
<i>Picea sitchensis</i>	Sitka Spruce	4
<i>Sphagnum rubellum</i>	Red Bog-moss	4
<i>Molinia caerulea</i>	Purple Moor-grass	3
<i>Potentilla erecta</i>	Tormentil	3
<i>Hylocomium splendens</i>	Glittering Woodmoss	2
<i>Pleurozium schreberi</i>	Schreber's Big Red Stem Moss	2
<i>Vaccinium vitis-idaea</i>	Cowberry	2
<i>Dicranum scoparium</i>	Broom Forkmoss	2
<i>Hypnum jutlandicum</i>	Heath Plait-moss	2
<i>Viola palustris</i>	Marsh Violet	2

Quadrat 10		Grid Reference: NN1846999192
UKHab Code: f1a5 Blanket Bog		Altitude: 178m
NVC Community: M17a <i>Trichophorum cespitosum</i> - <i>Eriophorum vaginatum</i> blanket mire, <i>Drosera rotundifolia</i> - <i>Sphagnum</i> species sub-community		
Potential Ground Water Dependence: N/A		
Priority Habitat: 7130 Blanket Bogs		
Scientific Name	Common Name	Abundance
<i>Molinia caerulea</i>	Purple Moor-grass	7
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	6
<i>Calluna vulgaris</i>	Heather	5
<i>Erica tetralix</i>	Cross-leaved heath	4
<i>Myrica gale</i>	Bog-myrtle	4
<i>Sphagnum capillifolium</i>	Acute-leaved Bog-moss	3
<i>Sphagnum papillosum</i>	Papillose Bog-moss	3
<i>Hylocomium splendens</i>		3
<i>Pleurozium schreberi</i>	Schreber's big red stem moss	3
<i>Trichophorum cespitosum</i>	Northern Deergrass	2
<i>Cladonia portentosa</i>	Reindeer Lichen	2
<i>Eriophorum angustifolium</i>	Common Cottongrass	2
<i>Polygala serpyllifolia</i>	Heath Milkwort	2
<i>Potentilla erecta</i>	Tormentil	2
<i>Narthecium ossifragum</i>	Bog Asphodel	1
<i>Drosera rotundifolia</i>	Round-leaved Sundew	1

Quadrat 11		Grid Reference: NN1774499640
UKHab Code: f1a5 Blanket Bog		Altitude: 210m
NVC Community: M17b <i>Trichophorum cespitosum</i> - <i>Eriophorum vaginatum</i> blanket mire, <i>Cladonia</i> species sub-community		
Potential Ground Water Dependence: N/A		
Priority Habitat: Blanket Bog		
Annex 1 Habitat: 7130 Blanket Bogs		
Scientific Name	Common Name	Abundance
<i>Cladonia portentosa</i>	Reindeer Lichen	7
<i>Calluna vulgaris</i>	Heather	6
<i>Sphagnum papillosum</i>	Papillose Bog-moss	5
<i>Racomitrium lanuginosum</i>	Woolly Fringemoss	5
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	4
<i>Eriophorum angustifolium</i>	Common Cottongrass	4
<i>Sphagnum capillifolium</i>	Acute-leaved Bog-moss	3
<i>Trichophorum cespitosum</i>	Northern Deergrass	3
<i>Narthecium ossifragum</i>	Bog Asphodel	3
<i>Sphagnum cuspidatum</i>	Feathery Bog-moss	3
<i>Cladonia uncialis</i>	N/A	3
<i>Erica tetralix</i>	Cross-leaved heath	2
<i>Drosera rotundifolia</i>	Round-leaved Sundew	2
<i>Pleurozia purpurea</i>	Purple Spoonwort	2
<i>Odontoschisma sphagni</i>	Bog-moss Flapwort	2

Quadrat 12		Grid Reference: NH0803201940
UKHab Code: g1b6 Other Upland Acid Grassland		Altitude: 148m
NVC Community: U4 <i>Festuca ovina</i> - <i>Agrostis capillaris</i> - <i>Galium saxatile</i> grassland, Typical sub-community		
Potential Ground Water Dependence: N/A		
Priority Habitat: N/A		
Scientific Name	Common Name	Abundance
<i>Pleurozium schreberi</i>	Schreber's Big Red Stem Moss	8
<i>Agrostis capillaris</i>	Common Bent	6
<i>Hylocomium splendens</i>	Glittering Woodmoss	5
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	4
<i>Festuca vivipara</i>	Viviparous Sheep's-fescue	4
<i>Festuca rubra</i>	Red Fescue	4
<i>Luzula multiflora</i>	Heath Wood-rush	4
<i>Lotus corniculatus</i>	Common Bird's Foot-trefoil	4
<i>Dicranum scoparium</i>	Broom Forkmoss	4
<i>Polytrichum commune</i>	Common Haircap	4
<i>Potentilla erecta</i>	Tormentil	3
<i>Vaccinium myrtillus</i>	Bilberry	3
<i>Polygala serpyllifolia</i>	Heath milkwort	3
<i>Racomitrium lanuginosum</i>	Woolly Fringemoss	3

<i>Molinia caerulea</i>	Purple Moor-grass	2
<i>Galium saxatile</i>	Heath Bedstraw	2
<i>Calluna vulgaris</i>	Heather	2

Quadrat 13		Grid Reference: NH0800002032
UKHab Code: f1a5 Blanket Bog		Altitude: 145m
NVC Community: M17a <i>Trichophorum cespitosum</i> - <i>Eriophorum vaginatum</i> blanket mire, <i>Drosera rotundifolia</i> - <i>Sphagnum</i> species sub-community		
Potential Ground Water Dependence: Moderately Groundwater Dependant		
Priority Habitat: N/A		
Scientific Name	Common Name	Abundance
<i>Molinia caerulea</i>	Purple Moor-grass	6
<i>Calluna vulgaris</i>	Heather	5
<i>Racomitrium lanuginosum</i>	Woolly Fringemoss	5
<i>Sphagnum capillifolium</i>	Acute-leaved Bog-moss	5
<i>Sphagnum papillosum</i>	Papillose Bog-moss	4
<i>Trichophorum cespitosum</i>	Northern Deergrass	4
<i>Narthecium ossifragum</i>	Bog Asphodel	4
<i>Erica tetralix</i>	Cross-leaved Heath	4
<i>Sphagnum compactum</i>	Compact Bog-moss	4
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	3
<i>Eriophorum angustifolium</i>	Common Cottongrass	2
<i>Pleurozia purpurea</i>	Purple Spoonwort	2
<i>Odontoschisma sphagni</i>	Bog-moss Flapwort	2
<i>Potentilla erecta</i>	Tormentil	2
<i>Festuca ovina</i>	Sheep's-fescue	2
<i>Cladonia portentosa</i>	Reindeer Lichen	1
<i>Drosera rotundifolia</i>	Round-leaved Sundew	1

Quadrat 14		Grid Reference: NH0802302117
UKHab Code: h1b6 Wet Heathland with Cross-Leaved Heath - Upland		Altitude: 145m
NVC Community: M15b <i>Scirpus cespitosus</i> - <i>Erica tetralix</i> wet heath, typical sub-community		
Potential Ground Water Dependence: Moderately Groundwater Dependant		
Priority Habitat: Upland Heathland		
Annex 1 Habitat: 4010 Northern Atlantic wet heaths with <i>Erica tetralix</i>		
Scientific Name	Common Name	Abundance
<i>Molinia caerulea</i>	Purple Moor-grass	7
<i>Calluna vulgaris</i>	Heather	5
<i>Sphagnum rubellum</i>	Red Bog-moss	5
<i>Erica tetralix</i>	Cross-leaved Heath	4
<i>Myrica gale</i>	Bog-myrtle	4
<i>Trichophorum cespitosum</i>	Northern Deergrass	4
<i>Narthecium ossifragum</i>	Bog Asphodel	3
<i>Drosera rotundifolia</i>	Round-leaved Sundew	2

<i>Eriophorum angustifolium</i>	Common Cottongrass	2
<i>Pedicularis sylvatica</i>	Lousewort	2
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	1

Quadrat 15		Grid Reference: NH2831701408
UKHab Code: w1a5 Western Acid Oak Woodland		Altitude: 78m
NVC Community: W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland		
Potential Ground Water Dependence: N/A		
Priority Habitat: Upland Oakwood		
Annex 1 Habitat: 91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles		
Scientific Name	Common Name	Abundance
<i>Vaccinium myrtillus</i>	Bilberry	7
<i>Thuidium tamariscinum</i>	Common Tamarisk-moss	7
<i>Pteridium aquilinum</i>	Bracken	6
<i>Quercus</i> sp.	Oak Semi-Mature	6
<i>Sorbus aucuparia</i>	Rowan Semi-Mature	5
<i>Betula pubescens</i>	Birch Early Mature	5
<i>Hylocomium splendens</i>	Glittering Woodmoss	4
<i>Ptilium crista-castrensis</i>	Ostrich-plume Feather-moss	4
<i>Pleurozium schreberi</i>	Schreber's Big Red Stem Moss	4
<i>Lonicera periclymenum</i>	Honeysuckle	4
<i>Hedera helix</i>	Ivy	4
<i>Holcus mollis</i>	Creeping Softgrass	3
<i>Fagus sylvatica</i>	Beech Early Mature	3
<i>Picea sitchensis</i>	Sitka spruce sappling	3
<i>Sorbus aucuparia</i>	Rowan seedling	2
<i>Oxalis acetosella</i>	Wood sorrel	2
<i>Galium saxatile</i>	Heath Bedstraw	2
<i>Potentilla erecta</i>	Tormentil	2
<i>Fagus sylvatica</i>	Beach sapling	1

Quadrat 16		Grid Reference: NH0810101879
UKHab Code: h1b6 Wet Heathland with Cross-Leaved Heath - Upland		Altitude: 148m
NVC Community: M15b <i>Scirpus cespitosus</i> - <i>Erica tetralix</i> wet heath, typical sub-community		
Potential Ground Water Dependence: Moderately Groundwater Dependant		
Priority Habitat: Upland Heathland		
Annex 1 Habitat: 4010 Northern Atlantic wet heaths with <i>Erica tetralix</i>		
Scientific Name	Common Name	Abundance
<i>Calluna vulgaris</i>	Heather	7
<i>Molinia caerulea</i>	Purple Moor-grass	7
<i>Narthecium ossifragum</i>	Bog Asphodel	5

<i>Sphagnum capillifolium</i>	Acute-leaved Bog-moss	5
<i>Erica tetralix</i>	Cross-leaved Heath	4
<i>Myrica gale</i>	Bog-myrtle	4
<i>Pleurozia purpurea</i>	Purple Spoonwort	4
<i>Racomitrium lanuginosum</i>	Woolly Fringe-moss	4
<i>Potentilla erecta</i>	Tormentil	3
<i>Drosera rotundifolia</i>	Round-leaved Sundew	2
<i>Empetrum nigrum subsp.nigrum</i>	Crowberry	2
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	2
<i>Hypnum jutlandicum</i>	Heath Plait-moss	2
<i>Odontoschisma sphagni</i>	Bog-moss Flapwort	1

Quadrat 17		Grid Reference: NH0815901893
UKHab Code: f1a5 Blanket Bog		Altitude: 142m
NVC Community: M17a <i>Trichophorum cespitosum</i> - <i>Eriophorum vaginatum</i> blanket mire, <i>Drosera rotundifolia</i> - <i>Sphagnum</i> species sub-community		
Potential Ground Water Dependence: N/A		
Priority Habitat: Blanket Bog		
Annex 1 Habitat: 7130 Blanket bogs		
Scientific Name	Common Name	Abundance
<i>Trichophorum cespitosum</i>	Northern Deergrass	7
<i>Calluna vulgaris</i>	Heather	5
<i>Molinia caerulea</i>	Purple Moor-grass	5
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	5
<i>Narthecium ossifragum</i>	Bog Asphodel	4
<i>Sphagnum capillifolium</i>	Acute-leaved Bog-moss	4
<i>Myrica gale</i>	Bog-myrtle	4
<i>Racomitrium lanuginosum</i>	Woolly Fringe-moss	4
<i>Pleurozia purpurea</i>	Purple Spoonwort	3
<i>Erica tetralix</i>	Cross-leaved Heath	2
<i>Potentilla erecta</i>	Tormentil	2
<i>Drosera rotundifolia</i>	Round-leaved Sundew	2
<i>Sphagnum palustre</i>	Blunt-leaved Bog-moss	2
<i>Carex pauciflora</i>	Few-flowered Sedge	2
<i>Sphagnum papillosum</i>	Papillose Bog-moss	1

Quadrat 18		Grid Reference: NH0819901915
UKHab Code: f2c Upland flushes, fens, and swamps		Altitude: 142m
NVC Community: M25b <i>Molinia caerulea</i> - <i>Potentilla erecta</i> mire, <i>Anthoxanthum odoratum</i> sub-community		
Potential Ground Water Dependence: Moderately Groundwater Dependant		
Priority Habitat: N/A		
Scientific Name	Common Name	Abundance
<i>Molinia caerulea</i>	Purple Moor-grass	9
<i>Hylocomium splendens</i>	Glittering Woodmoss	5

<i>Hyacinthoides non-scripta</i>	Bluebell	5
<i>Potentilla erecta</i>	Tormentil	4
<i>Holcus mollis</i>	Creeping soft grass	3
<i>Pleuruzium scheberi</i>	Schreber's Big Red Stem Moss	3
<i>Dicranum scoparium</i>	Broom Forkmoss	3
<i>Anemone nemorosa</i>	Wood Anemone	3
<i>Festuca ovina</i>	Sheep's-fescue	3
<i>Rumex acetosa</i>	Common Sorrel	2
<i>Rhytiadelphus squarrosus</i>	Springy turf-moss	2
<i>Teucrium scorodonia</i>	Wood sage	2
<i>Festuca rubra</i>	Red fescue	2
<i>Carex pilulifera</i>	Pill sedge	2
<i>Galium saxatile</i>	Heath Bedstraw	2
<i>Trientalis europaea</i>	Chickweed Wintergreen	2
<i>Viola riviniana</i>	Dog violet	1

Quadrat 19		Grid Reference: NH0880601304
UKHab Code: f2c Upland flushes, fens, and swamps		Altitude: 145m
NVC Community: M21 <i>Narthecium ossifragum</i> - <i>Sphagnum papillosum</i> valley mire		
Potential Ground Water Dependence: Highly Groundwater Dependent		
Priority Habitat: Upland Flushes, Fens, and Swamps		
Scientific Name	Common Name	Abundance
<i>Narthecium ossifragum</i>	Bog Asphodel	6
<i>Molinia caerulea</i>	Purple Moor-grass	5
<i>Sphagnum papillosum</i>	Papillose Bog-moss	5
<i>Drosera rotundifolia</i>	Round-leaved Sundew	4
<i>Erica tetralix</i>	Cross-leaved heath	4
<i>Calluna vulgaris</i>	Heather	3
<i>Pinguicula vulgaris</i>	Common Butterwort	3
<i>Pleurozia purpurea</i>	Purple Spoonwort	3
<i>Racomitrium lanuginosum</i>	Woolly Fringemoss	3
<i>Trichophorum cespitosum</i>	Northern Deergrass	3
<i>Eriophorum angustifolium</i>	Common Cottongrass	2
<i>Potentilla erecta</i>	Tormentil	2
<i>Carex pauciflora</i>	Few flowered sedge	2
<i>Ranunculus flamula</i>	Bulbous rush	2

Quadrat 20		Grid Reference: NN1577998850
UKHab Code: f1a5 Blanket Bog		Altitude: 233m
NVC Community: M17a <i>Trichophorum cespitosum</i> - <i>Eriophorum vaginatum</i> blanket mire, <i>Drosera rotundifolia</i> - <i>Sphagnum</i> species sub-community		
Potential Ground Water Dependence: N/A		
Priority Habitat: Blanket Bog		
Annex 1 Habitat: 7130 Blanket bogs		
Scientific Name	Common Name	Abundance
<i>Trichophorum cespitosum</i>	Northern Deergrass	5
<i>Eriophorum angustifolium</i>	Common Cottongrass	5
<i>Sphagnum capillifolium</i>	Acute-leaved Bog-moss	5
<i>Narthecium ossifragum</i>	Bog Asphodel	4
<i>Molinia caerulea</i>	Purple Moor-grass	4
<i>Sphagnum papillosum</i>	Papillose Bog-moss	4
<i>Erica tetralix</i>	Cross-leaved Heath	4
<i>Calluna vulgaris</i>	Heather	4
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	4
<i>Myrica gale</i>	Bog-myrtle	4
<i>Drosera rotundifolia</i>	Round-leaved Sundew	3
<i>Potentilla erecta</i>	Tormentil	3
<i>Drosera anglica</i>	Great Sundew	2
<i>Hypnum jutlandicum</i>	Heath Plait-moss	2
<i>Polygala serpyllifolia</i>	Heath Milkwort	2
<i>Cladonia portentosa</i>	Reindeer Lichen	1

Quadrat 21		Grid Reference: NN1299699376
UKHab Code: h1b6 Wet Heathland with Cross-Leaved Heath - Upland		Altitude: 197m
NVC Community: M15b <i>Scirpus cespitosus</i> - <i>Erica tetralix</i> wet heath, typical sub-community		
Potential Ground Water Dependence: Moderately Groundwater Dependant		
Priority Habitat: Upland Heathland		
Annex 1 Habitat: 4010 Northern Atlantic wet heaths with <i>Erica tetralix</i>		
Scientific Name	Common Name	Abundance
<i>Calluna vulgaris</i>	Heather	6
<i>Eriophorum angustifolium</i>	Common Cottongrass	5
<i>Trichophorum cespitosum</i>	Northern Deergrass	4
<i>Narthecium ossifragum</i>	Bog Asphodel	4
<i>Racomitrium lanuginosum</i>	Woolly Fringe-moss	4
<i>Erica tetralix</i>	Cross-leaved Heath	4
<i>Cladonia portentosa</i>	Reindeer Lichen	4
<i>Pleurozium schreberi</i>	Schreber's Big Red Stem Moss	4
<i>Sphagnum capillifolium</i>	Acute-leaved Bog-moss	3
<i>Sphagnum papillosum</i>	Papillose Bog-moss	3
<i>Hypnum jutlandicum</i>	Heath Plait-moss	3

<i>Aulacomnium palustre</i>	Bog Bead-moss	3
<i>Juncus squarrosus</i>	Heath Rush	3
<i>Polytrichum commune</i>	Common Haircap	3
<i>Eriophorum vaginatum</i>	Hare's-tail Cottongrass	2
<i>Drosera rotundifolia</i>	Round-leaved Sundew	2
<i>Potentilla erecta</i>	Tormentil	1

Quadrat 22		Grid Reference: NN1175199712
UKHab Code: f2c Upland flushes, fens, and swamps		Altitude: 190m
NVC Community: M29 <i>Hypericum elodes</i> - <i>Potamogeton polygonifolius</i> soakway		
Potential Ground Water Dependence: Highly Groundwater Dependent		
Priority Habitat: Upland Flushes, Fens, and Swamps		
Scientific Name	Common Name	Abundance
<i>Sphagnum palustre</i>	Blunt-leaved Bog-moss	8
<i>Sphagnum papillosum</i>	Papillose Bog-moss	7
<i>Common Spike rush</i>	Few-flowered sedge	5
<i>Eriophorum angustifolium</i>	Common Cottongrass	4
<i>Molinia caerulea</i>	Purple Moor-grass	4
<i>Ranunculus flammula</i>	Lesser Spearwort	4
<i>Juncus bulbosa</i>	Bulbous rush	4
<i>Viola palustris</i>	Marsh violet	4
<i>Potamogeton polygonifolius</i>	Bog Pondweed	4
<i>Carex nigra</i>	Common Sedge	3
<i>Succisa pratensis</i>	Devil's-bit Scabious	2
<i>Galium palustre</i>	Marsh bedstraw	1