
A83 Rest and Be Thankful

LTS EIAR VOLUME 4, APPENDIX 11.4 - DESIGNATED SITES AND
TERRESTRIAL HABITATS REPORT

Transport Scotland

A83AAB-AWJ-EAC-LTS_GEN-RP-LE-000260

A11-4. Designated Sites and Terrestrial Habitat Report

A11-4.1. Introduction

Terms of Reference

- A11-4.1.1. AtkinsRéalis WSP Joint Venture (AWJV) was commissioned by Transport Scotland as part of the A83 Rest and Be Thankful Project ('the Proposed Scheme (excl. NC & BNG)') to undertake surveys in relation to designated sites, habitats and plants.
- A11-4.1.2. Volume 2, Chapter 4: The Proposed Scheme, provides details of the construction works, the Receptor Sites and Natural Capital (NC) and Biodiversity Net Gain (BNG) enhancement sites. The findings for these enhancement sites are considered in Appendix 11.16: Enhancement Site Survey Report. They are not discussed within this report. For the purposes of this report, the Proposed Scheme area described excludes the NC and BNG enhancement sites. The Proposed Scheme, excluding the NC and BNG enhancement sites, will be referred to as the Proposed Scheme (excl. NC & BNG) hereafter.

Purpose of Report

- A11-4.1.3. This report is intended to provide baseline information regarding habitats and plant species to inform the Environmental Impact Assessment (EIA) Report for the Proposed Scheme. The report presents ecological information obtained during the following:
- A desk study undertaken in 2023, using botanical and designated site data from NatureScot [Site Link](#), DEFRA's [Magic Map Application](#), the [National Biodiversity Network \(NBN\) Atlas](#) and the Botanical Society of Britain and Ireland (BSBI).

- A review of previous habitat survey and assessment work (the 2022 Jacobs and AECOM Access to Argyll and Bute (A83) Medium Term Solution Habitats Report).
- [UK Habitat Classification](#) (UKHab) and [National Vegetation Classification](#) (NVC) surveys undertaken between May 2023 and September 2024.
- Incidental records of plants recorded during other ecological surveys in 2023.
- UKHab / NVC surveys undertaken between May 2023 and May 2024.

A11-4.2. Legislation

A11-4.2.1. See Appendix 11.2: Biodiversity Legislation, Policy and Guidance for legislation relating to designated sites, habitats and protected plants.

A11-4.3. Methodology

Desk Study

- A11-4.3.1. The geographical area for obtaining ecological data through desk studies has been determined using the [CIEEM Guidelines for Biodiversity Data](#) and the [CIEEM Guidelines for Preliminary Ecological Appraisal](#).
- A11-4.3.2. Baseline habitat and plant species data were assessed during a desk study undertaken in March 2023. Details of European designated sites within 10km and nationally designated sites, ancient woodland within 2km and non-statutory sites within 1km of the Proposed Scheme (excl. NC & BNG) were obtained using publicly available sources including NatureScot's Site Link, and DEFRA's Magic Map Application.
- A11-4.3.3. Records were obtained from the BSBI in January 2023 for all endemic, red-listed species, nationally scarce / rare species and county rare plants recorded within 500m of the Proposed Scheme (excl. NC & BNG). Records of invasive non-native plant species (INNPS) within 2km were obtained in February 2023 from a search of the NBN Atlas database. Argyll Biological Records Centre (ABReC) was also contacted in January 2023 for INNPS

records. A further NBN Atlas search was undertaken in January 2023 to search for records of INNPS in the Kinglas and Croe catchments.

- A11-4.3.4. The above distances for designated sites and species are hereafter referred to as the 'Desk Study Area'.

Data Review

- A11-4.3.5. The desk-based data review assessed all botanical species data, habitats data and designated site data from the above sources, that were directly relevant to the Desk Study Area. This exercise included a review of the 2022 Jacobs and AECOM Access to Argyll and Bute (A83) Medium Term Solution Habitats Report.

Field Survey

- A11-4.3.6. The field surveys were undertaken between May and September 2023 with a small number of supplementary survey visits undertaken between November 2023 and September 2024. A UKHab survey was undertaken of all habitats within 250m of the Proposed Scheme (excl. NC & BNG). As part of the UKHab survey, condition assessment data were collected from all habitats in line with [Biodiversity Metric 4.0](#). Where applicable, an NVC survey was also undertaken concurrently with the UKHab Survey, within the same 250m buffer. The NVC survey included all habitats with the potential to be [UK BAP Priority Habitats](#) or [Habitats Directive Annex I habitat types](#). Priority Habitats are defined as those listed as Habitats of Principal Importance under the Scottish Biodiversity List. This was determined in the field based on the habitats present and scoped out artificial hard surfaces, unvegetated clear fell, other unvegetated areas and forestry plantations lacking ground flora.
- A11-4.3.7. Vascular plant names recorded during the UKHab and NVC surveys follow 'New Flora of the British Isles 4th Edition' (Stace, 2019), and bryophyte names follow 'A New Checklist of the Bryophytes of Britain and Ireland (Blockeel *et al*, 2020). All UKHab surveys were carried out by surveyors who hold at least a BSBI [Field Identification Skills Certificate](#) (FISC) Level 4. The BSBI's FISC test determines botanical skill. Levels range from 1 (beginner) to

5 (professional) with 6 being awarded in exceptional cases. Level 4 is the expected minimum level required for consultants undertaking botanical surveys. Most NVC surveys were undertaken by surveyors who hold a FISC Level 6. The only exceptions were supplementary NVC surveys completed by a FISC Level 4 botanist in November 2023 and May 2024; the results of these surveys were verified by a FISC Level 6 botanist.

UKHab Survey

- A11-4.3.8. Habitats were mapped using the UKHab system (Version 1.1). UKHab is a hierarchical habitat classification system for the UK. It is compatible with other major existing classifications, including Priority Habitat types (UKHab Level 4) and Habitats Directive Annex I habitat types (UKHab Level 5).
- A11-4.3.9. All habitats were recorded to at least Level 4 of the UKHab primary habitat hierarchy, Annex I habitats were recorded to Level 5 of the UKHab primary habitat hierarchy. For each habitat area relevant secondary codes were also recorded.
- A11-4.3.10. All habitat features were digitally mapped, using Esri Field Maps, as either polygons, lines or points and assigned primary and secondary codes. For most of the survey area, a broad scale Minimum Mapping Unit (MMU) was used to map habitats (i.e. habitats were only mapped if they were greater than 400m² in area or 20m in length), however, a finer scale MMU where habitats were mapped if greater than 25m in area and 5m in length was used for habitats in the Beinn an Lochain Site of Special Scientific Interest (SSSI).
- A11-4.3.11. As DAFOR abundance values (Dominant, Abundant, Frequent, Occasional, Rare) are referred to in UKHab guidance, where relevant, these values were recorded for plant species within habitats being assessed.
- A11-4.3.12. Habitat condition data were collected as part of the UKHab survey based on Condition Assessment Sheets and Methodology for Biodiversity Metric 4.0 (Natural England, 2023). This included collecting answers to each of the habitat-specific Metric 4.0 condition assessment questions for all of the applicable habitat polygons, lines and points. BNG calculations for the

Proposed Scheme have been undertaken and are shown Appendix 4.1: Biodiversity Net Gain / Natural Capital Assessment.

NVC

- A11-4.3.13. The NVC survey was carried out in accordance with the survey guidance set out in the following publications:
- British Plant Communities Volume 1 - Woodlands and scrub (Rodwell, 1991);
 - British Plant Communities Volume 2 - Mires and heaths (Rodwell, 1991);
 - British Plant Communities Volume 3 - Grassland and montane communities (Rodwell, 1992);
 - British Plant Communities Volume 4 - Aquatic communities, swamps and tall-herb fens (Rodwell, 1995); and,
 - [NVC Users' Handbook \(Rodwell, 2006\)](#).
- A11-4.3.14. The NVC methodology provides a standardised system for classifying and mapping semi-natural vegetation communities and ensures that surveys are carried out to a consistent level of detail and accuracy.
- A11-4.3.15. The surveyors identified areas of similar vegetation (homogeneous stands) within the survey area that could be classified as separate communities using the NVC. The surveyor identified sampling points in areas considered to be representative of the homogeneous stand. At least five quadrats were taken for most vegetation communities (as shown in Annex 11.4.A), other than where communities could be easily identified without quadrat data, such as MG7, and / or were limited in extent, such as CG10.
- A11-4.3.16. At each sampling point, a sampling plot (quadrat) was marked out, within which the presence and abundance of each plant species was recorded. Within each quadrat, the presence and abundance of each vascular plant and bryophyte species was recorded. Cover was taken as the vertical projection on to the ground of the extent of the living parts of the species. Cover estimates were recorded using the Domin Scale which gives a value of

1-10 based on percentage cover within a quadrat (Refer to Table A11-4.1).
 The sampling process generated a list of plant species and associated
 Domin values for each quadrat sample.

Table A11-4.1 - Assessment of percentage cover using the Domin Scale

Percentage Cover	Domin Value
<4 % few individuals	1
<4 % several individuals	2
<4 % many individuals	3
4-10%	4
11-25%	5
26-33%	6
34-50%	7
51-75%	8
76-90%	9
90-100%	10

A11-4.3.17. In addition, the following variables were recorded for each quadrat: slope, aspect and cover of bare soil / leaf litter.

A11-4.3.18. Species present within the sampled homogenous stand but outside of the quadrats were also recorded. This was to ensure that rare species are looked for as part of the assessment.

A11-4.3.19. For each stand the number of times each species was identified in a quadrat was recorded. Quadrat frequency is summarised in floristic tables (Annex 11.4.A) using the Roman numerals I-V and referred to in descriptions of vegetation types using the terms listed in Table A11-4.2 below.

Table A11-4.2 - NVC vegetation frequency classes

Frequency Class	Range of Frequency	Term used to describe Frequency Class
V	81-100%	Constant
IV	61-80%	Constant
III	41-60%	Frequent
II	21-40%	Occasional
I	1-20%	Scarce

Analysis

A11-4.3.20. NVC communities were identified using keys and written descriptions presented in the NVC British Plant Communities volumes, quadrat data is grouped by NVC community and displayed in Appendix A of this document. The Priority Habitat and Annex I status of each of the habitats was determined based on the NVC communities present. [Scottish Environment Protection Agency Land Use Planning System SEPA Guidance Note 31](#) on the identification of Ground Water Dependent Terrestrial Ecosystems (GWDTE) was used to identify which NVC community types are potentially ground water dependent.

Protected and Priority Plant Species

A11-4.3.21. As part of the NVC survey a search was made for protected and priority plant species. The location of protected and / or priority plant species found during the survey was recorded using Esri Field Maps.

A11-4.3.22. The following legal and conservation designations for protected and priority plant species have been considered in this report:

- Schedule 8 of the Wildlife & Countryside Act 1981 (as amended); Schedule 5 of the Conservation of Habitats and Species Regulations 2017 (as amended). Plants listed under these schedules are strictly legally protected.

- The [Scottish Biodiversity List](#). This list identifies species that are of 'principal importance' for biodiversity conservation in Scotland.
- The [GB Red List for Vascular Plants](#). This Red List uses International Union for Conservation of Nature (IUCN) criteria to assess the status of vascular plants in Britain based on population trends in Great Britain.
- [Lists of Nationally Rare and Nationally Scarce Plants in Great Britain](#). These lists are based on how many hectads (10km grid squares) a plant occurs in within Great Britain. A Nationally Rare plant is one that occurs in 15 or fewer hectads and a Nationally Scarce plant occurs in fewer than 100. There are 2909 total hectads in Great Britain.
- [Revised Lists of Nationally Rare and Scarce Bryophytes for Britain](#). These lists use the same criteria for determining Nationally Rare / Scarce bryophytes as for vascular plants in the above lists.
- The [IUCN Red List for Bryophytes in the UK](#). This list uses the same IUCN criteria for determining Nationally Rare / Scarce bryophytes as for vascular plants in the above vascular plant red lists.

Invasive Non-native Plant Species

A11-4.3.23. A search was also made for INNPS listed under Schedule 9 of the Wildlife & Countryside Act 1981 (as amended by the Wildlife and Natural Environment (Scotland) Act 2011). While the list in Schedule 9 specifically relates to England and Wales, it is used as a useful reference when recording INNPS. Other INNPS known to the surveyors to be potentially invasive in natural habitats in Scotland, that are not present on Schedule 9, were also recorded.

Limitations

A11-4.3.24. This section identifies any limitations to the surveys and provides an explanation as to the potential effect of these on the assessment.

A11-4.3.25. Botanical surveys are limited by factors which affect the presence of plants such as the time of year. Therefore, the survey has not produced a complete list of plants and the absence of evidence of any particular species should

not be taken as conclusive proof that the species is not present or that it will not be present in the future.

- A11-4.3.26. Condition assessment sheets used were from Biodiversity Metric 4.0. However, BNG calculations have been run using the latest version of the Metric ([the Statutory Metric](#)). This is not a significant limitation because changes between these iterations of the Metric are minor and not expected to alter condition findings in this case.
- A11-4.3.27. Most of the surveys were undertaken between May and September, during the optimal season for UKHab and NVC. Due to updates to the Proposed Scheme (excl. NC & BNG), a small section was surveyed in November which is out of the optimal survey season. However, these areas were outside of the Proposed Scheme (excl. NC & BNG) and only just within the 250m buffer. The habitats in these areas were similar to those found within the rest of the survey area, so could be assigned with a high degree of confidence. Therefore, this is not considered a substantive limitation.
- A11-4.3.28. Habitats were mapped in the field using professional judgement and informed by aerial imagery. Habitat areas are measured with GIS, which creates a high degree of precision. However, boundaries between habitats are sometimes gradual changes, so despite the level of precision in area calculations there is always a slight element of approximation involved in calculations.

A11-4.4. Results

Desk Study

Designated Sites

- A11-4.4.1. The following designated sites were identified in proximity to the Proposed Scheme (excl. NC & BNG) during the desk study:
- [Beinn an Lochain SSSI](#), a small section within the Proposed Scheme (excl. NC & BNG) is within the SSSI boundary, as shown in the

designated sites map (Volume 3, Figure 11.1a. Designated Sites). The SSSI citation is provided in Appendix B of this document. The SSSI is 1,369.23ha in area, and is designated for the following features:

- Siliceous scree (includes boulder fields)
 - Tall herb ledge
 - An upland habitat assemblage including the following habitat components:
 - o acid grassland
 - o alpine summit communities
 - o blanket bog
 - o calcareous grassland
 - o mire grassland and rush pasture
 - o subalpine dry dwarf-shrub heath
 - o spring-head
 - o rill and flush.
- The [Glen Etive and Glen Fyne Special Protection Area \(SPA\)](#), located approximately 1.8km to the north. The SPA is designated as it qualified under Article 4.1 by regularly supporting a population of European importance of the Annex I species golden eagle *Aquila chrysaetos* (19 active territories in 2003, more than 4.2% of the GB population). Further information on the SPA is set out in Appendix 11.1: Report to inform Habitats Regulations Appraisal, and it is not discussed further in this Appendix.
 - The [Loch Lomond Woods Special Area of Conservation \(SAC\)](#) located approximately 5.50km to the east. The SAC is primarily designated for the presence of the Annex 1 habitat 91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles. Otter *Lutra lutra* is an Annex II species that is present within the SAC as a qualifying feature but is not a primary reason for site selection. Further information on the SAC is set out in Appendix 11.1: Report to inform Habitats Regulations Appraisal, and it is not discussed further in this Appendix.

A11-4.4.2. There is no ancient woodland within 2km of the Proposed Scheme (excl. NC & BNG), as included within NatureScot's Ancient Woodland Inventory (AWI). However, it should be noted that the AWI is a provisional guide to the location of ancient woodland and that exclusion from the AWI does not necessarily mean woodland or sites are not ancient. Indicators of ancient woodland (old maps, archaeology, ancient woodland indicator species) are required to verify the presence of ancient woodland and / or ancient woodland soils. This is in line with the NatureScot [Guide to Understanding the Scottish Ancient Woodland Inventory \(AWI\)](#).

A11-4.4.3. There are no non-statutory designated sites for nature conservation present within 1km of the Proposed Scheme (excl. NC & BNG).

Bryophytes

A11-4.4.4. A specific bryophyte survey (mosses, liverworts and hornworts) was completed in June 2024. The desk study results for bryophytes are, therefore, included along with field survey results presented in Appendix 11.5: Bryophyte Report.

Protected & Priority Plant Species

A11-4.4.5. The BSBI data search returned 150 records of endemic, red-listed species, nationally scarce / rare species and county rare plants, representing 46 taxa. However, most of these records were at the 10km square (hectad) resolution, so it was not clear if any of these were within the 500m search area for plant species records. Five records at a higher level of resolution were from within 500m of the Proposed Scheme (excl. NC & BNG) as follows:

- Three records of English bluebell *Hycacinthoides non-scripta*; these records are not considered further as bluebell is a common and widespread species that is only protected from sale under the Wildlife and Countryside Act 1981, but lacks any other legal protection or red list status;

- A single record from 2020 of Wilson's filmy-fern *Hymenophyllum wilsonii* at a NN2403, a 1km square (monad), with its location identified as 'The Brack'. This species is 'Near-threatened' on the GB Red List. This monad is outside of the Proposed Scheme (excl. NC & BNG) but some parts of it are within the 250m buffer around the boundary, so it is unclear if the record is from within the wider survey area or not; and
- A single record from 2020 of mossy saxifrage *Saxifraga hypnoides* at NN2403, a monad, with its location also identified as 'The Brack'. This species is 'Vulnerable' on the GB Red List. This monad is outside of the Proposed Scheme (excl. NC & BNG) but some parts of it are within the 250m buffer around the boundary, so it is unclear if the record is from within the wider survey area or not.

Invasive Non-native Plant Species

A11-4.4.6. The NBN Atlas search found records for four INNPS within 2km of the Proposed Scheme (excl. NC & BNG) or within the Kinglas and Croe catchments as follows:

- Rhododendron *Rhododendron ponticum*, a single 2017 record from Cairndow, approximately 5km to the west of the Proposed Scheme (excl. NC & BNG).
- Giant rhubarb *Gunnera tinctoria*, two 2018 records in the same location on the side of the B828 Glenmore Road, approximately 300m to the west of the Proposed Scheme (excl. NC & BNG).
- Japanese knotweed *Reynoutria (Fallopia) japonica*, five records of which the closest was a 2014 record from Ardgarten, approximately 2.9km south east of the Proposed Scheme (excl. NC & BNG).
- American skunk-cabbage *Lysichiton americanus*, two records from Cairndow, approximately 5km to the west of the Proposed Scheme (excl. NC & BNG). The most recent of these was from 2017.

Field Survey

SSSI

A11-4.4.7. Table A11-4.3 below shows the NVC communities identified within the Beinn an Lochain SSSI that intersect with permanent and temporary works areas. This corresponds to permanent and temporary habitat loss, habitats will be reinstated following completion of works in the temporary works area.

A11-4.4.8. Apparent discrepancies between the sum of individual areas and total areas provided in the table are the result of rounding each number to two decimal places, rather than errors in the totals.

Table A11-4.3 - NVC communities identified within the Beinn an Lochain SSSI that intersect with permanent and temporary works areas

NVC Community / Communities	Habitat Area that Intersects Permanent Works (ha)	Habitat Area that Intersects Temporary Works (ha)	Designated Feature (Y/N)
MG9 / M23 Mosaic	None	<0.01	Y
MG9	0.04	0.05	N
H21 / M25 Mosaic	None	0.01	Y
M23b / M25 Mosaic	None	<0.01	Y
M23	0.07	0.16	Y
Total	0.10	0.22	N/A

UKHab

A11-4.4.9. The UKHab habitat types identified within the survey area are mapped in Volume 3, Figure 11.4a: - Terrestrial Habitats (UKHab). Where Annex I habitats were present these were assigned the relevant UKHab Level 5 code. The survey area included a 250m buffer around the Proposed Scheme.

A11-4.4.10. The area of UKHab habitats found during the survey are shown in Table A11-4.4. The extent to which habitats intersect with permanent and temporary works within the Proposed Scheme (excl. NC & BNG) are also shown in this table. These habitats are discussed in more detail in the following section that contains the results of the NVC survey. It should be noted that some UKHab habitats were assessed as not being assignable to any NVC community.

A11-4.4.11. Apparent discrepancies between the sum of individual areas and total areas provided in the table are the result of rounding each number to two decimal places, rather than errors in the totals.

Table A11-4.4 - Area of UKHab habitats within Proposed Scheme (excl. NC & BNG) (including a breakdown of habitat extents that intersect temporary and permanent works)

UKHab Primary Habitat Type (Highest Level Assigned)	Approximate Area within Proposed Scheme (excl. NC & BNG) Boundary (ha)	Habitat Area that Intersects Permanent Works (ha)	Habitat Area that Intersects Temporary Works (ha)
c1b Temporary grass and clover leys (Level 4)	0.02	0.01	0.01
f1a Blanket bogs (Level 4)	<0.01	None	<0.01
f2b Purple moor grass and rush pastures (Level 4)	10.25	4.85	5.40
f2b5 Purple moor-grass meadows (H6410) (Level 5)	None	<0.01	None

UKHab Primary Habitat Type (Highest Level Assigned)	Approximate Area within Proposed Scheme (excl. NC & BNG) Boundary (ha)	Habitat Area that Intersects Permanent Works (ha)	Habitat Area that Intersects Temporary Works (ha)
f2c Upland flushes, fens and swamps (Level 4)	1.86	0.78	1.08
f2c7 Calcium-rich springwater-fed fens; upland (H7230) (Level 5)	0.14	None	0.14
g Grassland (Level 2)	0.08	0.07	0.01
g1b Upland acid grassland (Level 4)	1.04	0.14	0.90
g1c Bracken (Level 4)	7.36	1.94	5.42
g2b Upland calcareous grassland (Level 4)	0.13	<0.01	0.13
g2b6 Species-rich grassland with mat-grass in upland areas (H6230) (Level 5)	0.07	None	0.07
g3c Other neutral grassland (Level 4)	2.80	1.29	1.51
g3c7 <i>Deschampsia</i> neutral grassland (Level 5)	0.05	<0.01	0.05
g4 Modified grassland (Level 3)	0.10	0.07	0.03

UKHab Primary Habitat Type (Highest Level Assigned)	Approximate Area within Proposed Scheme (excl. NC & BNG) Boundary (ha)	Habitat Area that Intersects Permanent Works (ha)	Habitat Area that Intersects Temporary Works (ha)
h1b Upland heathland (Level 4)	<0.01	None	<0.01
h1b5 Dry heaths; upland (H4030) (Level 5)	0.56	0.10	0.45
h3d Bramble scrub (Level 4)	0.05	None	0.05
h3h Mixed scrub (Level 4)	0.06	0.02	0.04
h3j Willow scrub (Level 4)	0.02	None	0.02
r2b Other rivers and streams (Level 4)	0.02	<0.01	0.02
u1b Developed land; sealed surface (Level 4)	4.16	2.72	1.44
u1b5 Buildings (Level 5)	<0.01	<0.01	<0.01
u1c Artificial unvegetated, unsealed surface (Level 4)	0.25	0.18	0.08
u1d Suburban / mosaic of developed / natural surface (Level 4)	0.01	<0.01	0.01

UKHab Primary Habitat Type (Highest Level Assigned)	Approximate Area within Proposed Scheme (excl. NC & BNG) Boundary (ha)	Habitat Area that Intersects Permanent Works (ha)	Habitat Area that Intersects Temporary Works (ha)
u1e Built linear feature (Level 4)	0.19	0.19	None
w Woodland and forest (Level 2)	0.05	<0.01	0.04
w2c Other coniferous woodland (Level 4)	0.98	0.30	0.68
Total	30.26	12.66	17.60

A11-4.4.12. Also in addition, the Receptor Sites contain:

- 0.04 ha, f2b Purple moor grass and rush pastures (Level 4)
- 0.03 ha, g3c Other neutral grassland (Level 4)
- <0.01 ha, r2b Other rivers and streams (Level 4) and
- 0.32 ha, w Woodland and forest (Level 2).

NVC

A11-4.4.13. The NVC vegetation communities identified within the survey area are mapped in Volume 3, Figure 11.4b. - Terrestrial Habitats (National Vegetation Classification). NVC habitat areas within the Proposed Scheme (excl. NC & BNG) are shown in Table A11-4.5. This table also shows the extent to which habitats intersect with permanent and temporary works within the Proposed Scheme (excl. NC & BNG). All of the NVC communities recorded in the Proposed Scheme (excl. NC & BNG) boundary and survey area are described below, with different subheadings for each major category by which NVC communities are grouped (e.g. mires, heathlands, aquatic communities).

Table A11-4.5 Area of NVC habitats within Proposed Scheme (excl. NC & BNG) (including a breakdown of habitat extents that intersect temporary and permanent works)

NVC Community Type	Approximate Area within the Proposed Scheme (excl. NC & BNG) Boundary (ha)	Habitat Area that Intersects Temporary Works (ha)	Habitat Area that Intersects Permanent Works (ha)
CG10	0.17	0.17	<0.01
CG11	0.03	0.03	None
H12	0.01	0.01	None
H12 / H14 / M25 / U5 / U20 Mosaic	0.24	0.18	0.06
H12 / H21 Mosaic	0.15	0.13	0.03
H13	0.13	0.12	0.01
H14	0.06	0.06	<0.01
H21 / M25 Mosaic	0.02	0.02	<0.01
H9	0.01	0.01	None
M10	0.14	0.14	None
M23	1.45	0.93	0.52
M23 / M25 Mosaic	8.42	4.33	4.09
M23 / M26 Mosaic	<0.01	<0.01	None
M23a	0.34	0.11	0.24
M23b / M25 Mosaic	<0.01	<0.01	None
M25	0.27	0.17	0.10
M6	1.86	1.08	0.78

NVC Community Type	Approximate Area within the Proposed Scheme (excl. NC & BNG) Boundary (ha)	Habitat Area that Intersects Temporary Works (ha)	Habitat Area that Intersects Permanent Works (ha)
MG10	2.31	1.27	1.04
MG6/MG7a Transition	0.28	0.01	0.27
MG7	0.02	0.01	0.01
MG9	0.41	0.29	0.12
U2	0.01	0.01	None
U20	4.99	3.38	1.61
U21	0.14	0.14	<0.01
U4	0.26	0.21	0.06
U5/H14/U20/M23 Transition	0.53	0.51	0.02
W1	0.04	0.03	0.01
W11	0.01	0.01	None
W17	0.73	0.44	0.29
W24	0.05	0.05	None
W25	1.62	1.37	0.25
W25a	0.60	0.52	0.08
W4	0.05	0.04	<0.01
Habitats not assignable to any NVC community	4.85	1.76	3.09
Total	30.23	17.57	12.66

A11-4.4.14. In addition to the above, the Receptor Sites contain:

- 0.04 ha, M25
- 0.03 ha, MG10
- <0.01 ha, MG6/MG7a Transition and
- 0.32 ha, W4.

A11-4.4.15. Apparent discrepancies between the sum of individual areas and total areas provided in the table are the result of rounding each number to two decimal places, rather than errors in the totals. The slight difference between the total UKHab area and the NVC area result from there being small areas where a full UKHab survey was undertaken but not an NVC survey.

Aquatic Communities

A11-4.4.16. Aquatic NVC communities were only identified within Loch Restil on the northern side of the wider survey area. A full survey of aquatic macrophytes was not undertaken or considered necessary as the Proposed Scheme (excl. NC & BNG) is not predicted to have any impacts on Loch Restil, but further information is also available in Appendix 11.6: Aquatic Receptor Report. Three aquatic plant communities were identified from the shoreline:

- *A22 Littorella uniflora-Lobelia dortmanna* community: A community most commonly found in oligotrophic upland waterbodies dominated by shoreweed *Littorella uniflora* and water lobelia *Lobelia dortmanna*
- *A23 Isotes lacustris / setacea* community: A community most commonly found in oligotrophic upland lakes, dominated by quillwort *Isotes lacustris* and *Isotes echinospora*. These similar species were not distinguished during the survey and
- *A24 Juncus bulbosus* community: A community most commonly found in oligotrophic upland lakes, dominated by bulbous rush *Juncus bulbosus*.

Mire Communities

A11-4.4.17. Mire communities were widespread across the Proposed Scheme (excl. NC & BNG) and wider survey area. In total ten mire communities were identified as outlined below:

- M2 *Sphagnum cuspidatum / recurvum* bog pool community. Small areas of this community were present in the northern side of the survey area, associated with an area of M18 *Erica tetralix-Sphagnum papillosum* raised and blanket mire. This community was characterised by the presence of *Sphagnum cuspidatum* within bog pools;
- M4 *Carex rostrata-Sphagnum recurvum* mire. This community was scattered in flushes throughout the survey area, mostly west of the Old Military Road although it was less widespread than M6 in these habitats. It was characterised by the presence of bottle sedge *Carex rostrata* as a constant species;
- M6 *Carex echinata-Sphagnum recurvum* mire. This community was widespread in flushes throughout the survey area including within the Proposed Scheme (excl. NC & BNG). This is a type of poor-fen characterised by frequent star sedge *Carex echinata* and base-intolerant *Sphagna*;
- M10 *Pinguiculo-Caricetum* mire. This community was localised to two areas in the survey area, between the A83 and Old Military Road. It is a calcareous flush community characterised by a high diversity of small sedges including species like dioecious sedge *Carex dioica* that are dependent on base-enrichment;
- M17 *Scirpus cespitosus-Eriophorum vaginatum* blanket mire. This community was present in a localised area in the northern part of the survey area, within the Beinn an Lochain SSSI, this is a blanket bog community with constant species including ericoid sub-shrubs, purple moor-grass *Molinia caerulea* and *Sphagnum* species.
- M18 *Erica tetralix-Sphagnum papillosum* raised and blanket mire. M18 was present in the survey area only in an area to the north east of the

A83. It was characterised by the constant presence of peat-forming *Sphagna* including *Sphagnum papillosum* and *Sphagnum rubellum* in ombrotrophic blanket bog conditions;

- M21 *Narthecio-Sphagnetum* valley mire. This community was present in two areas within the survey area, south of the Old Military Road. It was characterised by the constant presence of bog asphodel *Narthecium ossifragum* and peat-forming *Sphagna* including *Sphagnum papillosum* and *Sphagnum rubellum* in minerotrophic valley mire conditions;
- M23 *Juncus effusus* / *acutiflorus-Galium palustre* rush-pasture. This community was widespread in the survey area including within the Proposed Scheme (excl. NC & BNG); it was found on both sides of the Old Military Road but not east of the A83. Two subcommunities were identified, although not all M23 stands were referable to either of these sub-communities.
 - M23a *Juncus effusus* / *acutiflorus-Galium palustre* rush-pasture *Juncus acutiflorus* sub-community. This subcommunity was characterised by sharp-flowered rush *Juncus acutiflorus* being dominant over soft rush *Juncus effusus* and
 - M23b *Juncus effusus* / *acutiflorus-Galium palustre* rush-pasture *Juncus effusus* sub-community. This subcommunity was characterised by dominant soft rush in the absence of sharp-flowered rush.
- M25 *Molinia caerulea-Potentilla erecta* mire. M25 was an abundant and generally species-poor community occurring throughout the survey area, including within the Proposed Scheme (excl. NC & BNG), in both grazed pasture and regenerating forestry clear-fell. It was characterised by constant purple-moor grass and tormentil *Potentilla erecta*; and
- M26 *Molinia caerulea-Crepis paludosa* mire. This community was present to the south of Loch Restil in the northern part of the survey area, within the Beinn an Lochain SSSI, in a mosaic with M23. It is a more species-rich purple moor-grass dominated community than M25, with constant marsh hawk's-beard *Crepis paludosa*.

Acid Grassland Communities

A11-4.4.18. Five acid grassland communities were identified by the NVC surveys, as outlined below:

- U2 *Deschampsia flexuosa* grassland. This was present in a small area of regenerating forestry clear-fell on the southern side of the survey area, between the A83 and Old Military Road. It was dominated by wavy hair-grass *Avenella flexuosa* (formerly known as *Deschampsia flexuosa*);
- U4 *Festuca ovina* - *Agrostis capillaris* - *Galium saxatile* grassland. U4 was widespread throughout pasture in the survey area, including within the Proposed Scheme (excl. NC & BNG). It is characterised as grassland in which sheep's fescue *Festuca ovina*, common bent *Agrostis capillaris* and heath bedstraw *Galium saxatile* were the most consistent components;
- U5 *Nardus stricta*-*Galium saxatile* grassland. This community was present over a small area of pasture on the northern side of the survey area. It was characterised by the dominance of mat-grass *Nardus stricta*; and
- U6 *Juncus squarrosus* - *Festuca ovina* grassland.
- U20 *Pteridium aquilinum*-*Galium saxatile* community. U20 is a very widespread community across the survey area, including within the Proposed Scheme (excl. NC & BNG), especially in ungrazed areas such as clear-felled forestry plantations and road verges. Most of the stands were dominated by bracken with few other species present;
- U21 *Cryptogramma crispera*-*Deschampsia flexuosa* grassland was present in the north of the survey area adjacent to the A83.

Neutral Grassland Communities

A11-4.4.19. Four neutral grassland communities were identified during the NVC surveys as outlined below:

- MG6 *Lolio-Cynosuretum cristati* grassland / MG7 / MG7a *Lolium perenne* leys and related grasslands *Lolio-Plantaginion Lolium perenne-Trifolium*

repens leys. An area of pasture on the northern side of the survey area (including within the Proposed Scheme (excl. NC & BNG)) was transitional between these two community types, as it was an area of agriculturally improved re-seeded grassland (MG7a) in the process of reverting to a semi-improved community (MG6);

- MG7 *Lolium perenne* leys and related grasslands. This community was present as a small block of agriculturally improved grassland in the central part of the survey area, to the west of the OMR.
- MG9 *Holcus lanatus-Deschampsia cespitosa* grassland. This community was frequent in low-lying pasture within the survey area, especially in proximity to the Croe Water and in both grazed pasture and clear-felled forestry plantations. It was characterised by the dominance of tufted hair-grass *Deschampsia cespitosa* and a range of other bulky grasses;
- MG10 *Holco-Juncetum effusi* rush-pasture. This was present in one area of clear-felled forestry on the southern side of the survey area. It was characterised by prominent tussocks of soft rush in addition to creeping bent *Agrostis stolonifera*, Yorkshire fog *Holcus lanatus* and creeping buttercup *Ranunculus repens*; and
- MG11 *Festuca rubra-Agrostis stolonifera-Potentilla anserina* grassland. This community was present in one area of clear-felled forestry on the southern side of the survey area. It was characterised by the abundance of red fescue *Festuca rubra* and creeping bent.

Calcareous Grassland Communities

A11-4.4.20. Two calcareous grassland community were identified by the NVC surveys:

- CG10 *Festuca ovina-Agrostis capillaris-Thymus praecox* grassland and CG11 *Festuca ovina-Agrostis capillaris-Alchemilla alpina* grass-heath. These communities were present in a small area of cattle-grazed pasture on the northern side of the survey area, where it is currently subject to overgrazing and high levels of disturbance from trampling. These are species-rich upland calcareous grassland communities in which sheep's fescue and common bent are constant.

Woodland / Scrub Communities

A11-4.4.21. Eight woodland / scrub NVC communities were identified by the NVC surveys:

- W1 *Salix cinerea-Galium palustre* woodland. There were scattered stands of regenerating grey willow *Salix cinerea* dominated woodland found throughout the survey area, generally in areas that are not grazed by livestock;
- W4 *Betula pubescens-Molinia caerulea* woodland. A small stand of W4 was present on either side of the Croe Water north east of the A83. This community was characterised by dominant *Betula pubescens* with frequent purple moor-grass in the ground layer;
- W11 *Quercus petraea-Betula pubescens-Oxalis acetosella* woodland. This community was occasional on the southern side of the survey area, as scattered regeneration in areas not grazed by livestock, where it occurred in a mosaic with other woodland types. It was not present as mature woodland;
- W16 *Quercus spp.-Betula spp.-Deschampsia flexuosa* woodland. Several areas of mature conifer plantation within the survey area had a ground flora that resembled this community type, although the natural canopy layer was not present;
- W17 *Quercus petraea-Betula pubescens-Dicranum majus* woodland. Some areas of mature conifer plantation within the survey area had a ground flora that resembled this community type, though it was less widespread than W16. The natural canopy layer was not present in these areas;
- W21 *Crataegus monogyna-Hedera helix* scrub. There were scattered stands of regenerating common hawthorn *Crataegus monogyna* dominated scrub corresponding to W21, present in the southern side of the site in a mosaic with other community types in ungrazed areas;
- W24 *Rubus fruticosus-Holcus lanatus* underscrub. This community was scattered in ungrazed areas on the southern side of the survey area. It is

a bramble dominated community in which Yorkshire-fog is also constant; and

- W25 *Pteridium aquilinum-Rubus fruticosus* underscrub. This was a common and widespread habitat throughout the survey area, especially in ungrazed areas and on steep slopes. It was characterised by bracken and bramble, both of which were constant species;
- Some of the stands of W25 on the northern side of the survey area were assigned as the W25a *Hyacinthoides non-scripta* sub-community as they had a significant herbaceous component, which included bluebell.

None of the woodland habitats surveyed are likely to be ancient woodlands or Plantations on Ancient Woodland Sites (PAWS), these habitats supported only very low numbers of species listed as ‘Ancient Woodland Indicator Plants in Scotland’ (Crawford, 2009), far below the threshold at which ancient woodland status could be inferred. One of these listed species, English bluebell, was present in open habitats dominated by bracken rather than in true woodland, a common situation in western Britain, therefore it is not a reliable indicator of ancient woodland locally.

Heathland Communities

A11-4.4.22. Seven heathland NVC communities were identified by the NVC surveys as follows:

- H9 *Calluna vulgaris-Deschampsia flexuosa* heath. This community was present as small stands scattered throughout the southern side of the survey area. This is a heathland community in which common heather *Calluna vulgaris* and wavy hair-grass are constant species;
- H10 *Calluna vulgaris-Erica cinerea* heath. H10 was only present in forestry clear-fell on the southern part of the survey area, in a mosaic with other heathland types. It was characterised as heathland in which bell heather *Erica cinerea* is co-dominant with common heather;
- H12 *Calluna vulgaris-Vaccinium myrtillus* heath. This was a widespread community throughout the survey area, most extensively where it has regenerated in areas of forestry clear-fell. It was characterised as a

heathland community in which common heather and bilberry *Vaccinium myrtillus* are constant and dominant along with a range of species characteristic of dry acid habitats;

- H13 - *Calluna vulgaris-Cladonia arbuscula* heath was recorded in a small patch in the north of the survey area between the A83 and the OMR. This is a near-natural, high-altitude heath community, bordered by the A83 to the north and a complex mix of mesotrophic grasslands, rush pasture and bracken-dominated vegetation;
- H14 *Calluna vulgaris-Racomitrium lanuginosum* heath. This was a frequent community within the survey area, especially on its northern side. Most of these swards are grazed, with close cropped common heather and a range of bryophyte and lichen species;
- H21 *Calluna vulgaris-Vaccinium myrtillus-Sphagnum capillifolium* heath. This community was present mostly within the Beinn an Lochain SSSI but also scattered on the southern side of the survey area. It is a bryophyte-rich heathland community in which *Sphagnum capillifolium* is constant with common heather and bilberry.

Annex 1, Priority Habitat and GWDTE Status

A11-4.4.23. Table A11-4.6 outlines the Annex I habitat and Priority Habitat status for each of the habitats identified within the survey area. It also provides an assessment as to whether each NVC community has the potential to be a Ground Water Dependent Terrestrial Ecosystem (GWDTE).

Table A11-4.6 - Priority Habitat, Annex I and Potential Ground Water Dependent Terrestrial Ecosystem (GWDTE) status for NVC Communities in the survey area

NVC Community / Communities	Equivalent UKHab Habitat	Annex I Status	Priority Habitat Status	Potential GWDTE Status
A22 <i>Littorella uniflora-Lobelia dortmanna</i> community, A23 <i>Isoetes lacustris / setacea</i> community, A24 <i>Juncus bulbosus</i> community	r1c5 Clear-water lakes and lochs with aquatic vegetation	H3130 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 Priority Habitat	Not GWDTE, Surface Water Habitat
M10 <i>Pinguicula-Caricetum</i> mire (not all examples within survey area)	f2c7 Calcium-rich springwater-fed fens: upland	H7230 Alkaline fens	Upland Flushes, Fens and Swamps Priority Habitat	High Potential ground water dependency
CG10 <i>Festuca ovina-Agrostis capillaris-Thymus praecox</i> grassland, CG11 <i>Festuca ovina – Agrostis capillaris – Alchemilla alpina</i> grassland	g2b6 Species-rich grassland with mat-grass in upland areas	H6230 *Species-rich <i>Nardus</i> grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe)	Upland Calcareous Grassland Priority Habitat	High Potential ground water dependency

NVC Community / Communities	Equivalent UKHab Habitat	Annex I Status	Priority Habitat Status	Potential GWDTE Status
M4 <i>Carex rostrata-Sphagnum recurvum</i> mire	f2c8 Transition mires and quaking bogs; upland	H7140 Transition mires and quaking bogs	Upland Flushes, Fens and Swamps Priority Habitat	Not ground water dependent
H9 <i>Calluna vulgaris-Deschampsia flexuosa</i> heath, H10 <i>Calluna vulgaris-Erica cinerea</i> heath, H12 <i>Calluna vulgaris-Vaccinium myrtillus</i> heath, H14 <i>Calluna vulgaris-Racomitrium lanuginosum</i> heath, H21 <i>Calluna vulgaris-Vaccinium myrtillus-Sphagnum capillifolium</i> heath	h1b5 Dry heaths; upland	H4030 European dry heaths	Upland Heathland Priority Habitat	Not ground water dependent
M17 <i>Scirpus cespitosus</i> – <i>Eriophorum vaginatum</i> blanket mire, M18 <i>Erica tetralix</i> - <i>Sphagnum papillosum</i> raised and blanket mire	f1a5 Blanket bog	H7130 Blanket bogs	Blanket Bog Priority Habitat	Not ground water dependent

NVC Community / Communities	Equivalent UKHab Habitat	Annex I Status	Priority Habitat Status	Potential GWDTE Status
W4 <i>Betula pubescens</i> - <i>Molinia caerulea</i> woodland	w1e Upland birchwoods	Not Applicable	Upland Birchwoods Priority Habitat	High Potential ground water dependency
U2 <i>Deschampsia flexuosa</i> grassland, U4 <i>Festuca ovina</i> - <i>Agrostis capillaris</i> - <i>Galium saxatile</i> grassland, U5 <i>Nardus stricta</i> - <i>Galium saxatile</i> grassland, U20 <i>Pteridium aquilinum</i> - <i>Galium saxatile</i> community	g1b Upland acid grassland	Not Applicable	Not Applicable	Not ground water dependent

NVC Community / Communities	Equivalent UKHab Habitat	Annex I Status	Priority Habitat Status	Potential GWDTE Status
M2 <i>Sphagnum cuspidatum / recurvum</i> bog pool community, M4 <i>Carex rostrata-Sphagnum recurvum</i> mire, M6 <i>Carex echinata-Sphagnum recurvum</i> mire, M10 <i>Pinguiculo-Caricetum</i> mire, M18 <i>Erica tetralix-Sphagnum papillosum</i> raised and blanket mire, M21 <i>Narthecio-Sphagnetum</i> valley mire, M23 <i>Juncus effusus / acutiflorus-Galium palustre</i> rush-pasture	f2c Upland flushes, fens and swamps	Not Applicable	Upland Flushes, Fens and Swamps Priority Habitat	High potential ground water dependency (M6, M10, M21 and M23), No ground water dependency (M2, M4, M18)
M26 <i>Molinia caerulea – Crepis paludosa</i> mire, M25 <i>Molinia caerulea – Potentilla erecta</i> mire	f2b Purple moor grass and rush pastures	H6410 <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (Molinion <i>caeruleae</i>) (M26 only)	Purple Moor-Grass and Rush Pastures Priority Habitat	Moderate potential ground water dependency

NVC Community / Communities	Equivalent UKHab Habitat	Annex I Status	Priority Habitat Status	Potential GWDTE Status
MG6 <i>Lolio-Cynosuretum cristati</i> grassland, MG7 <i>Lolium perenne</i> leys and related grasslands, MG9 <i>Holcus lanatus-Deschampsia cespitosa</i> grassland, MG10 <i>Holco-Juncetum effusi</i> rush-pasture, MG11 <i>Festuca rubra-Agrostis stolonifera-Potentilla anserina</i> grassland	g3c Other neutral grassland	Not Applicable	Not Applicable	Moderate potential ground water dependency (MG9, MG10 and MG11) Not ground water dependent (MG6 and MG7)
W1 <i>Salix cinerea-Galium palustre</i> woodland, W21 <i>Crataegus monogyna-Hedera helix</i> scrub	h3h Mixed scrub	Not Applicable	Not Applicable	Moderate potential ground water dependency (W1) Not ground water dependent (W21)

NVC Community / Communities	Equivalent UKHab Habitat	Annex I Status	Priority Habitat Status	Potential GWDTE Status
Habitats not assignable to any NVC community, W16 <i>Quercus</i> spp.- <i>Betula</i> spp.- <i>Deschampsia flexuosa</i> woodland (ground flora only), W17 <i>Quercus petraea</i> - <i>Betula pubescens</i> - <i>Dicranum majus</i> woodland (ground flora only)	w2c Other coniferous woodland	Not Applicable	Not Applicable	Not ground water dependent
W25 <i>Pteridium aquilinum</i> - <i>Rubus fruticosus</i> underscrub	g1c Bracken	Not Applicable	Not Applicable	Not ground water dependent
W24 <i>Rubus fruticosus</i> - <i>Holcus lanatus</i> underscrub	h3d Bramble scrub	Not Applicable	Not Applicable	Not ground water dependent

Protected and Priority Plant Species

A11-4.4.24. Only one protected or priority plant species, as defined by Section A11-4.3.22 of this report was identified during the NVC Survey, juniper *Juniperus communis*, which is listed on the Scottish Biodiversity List. This was scattered throughout the survey area in regenerating vegetation where forestry plantations had been clear-felled but did not appear to be present within the Proposed Scheme (excl. NC & BNG).

Invasive Non-native Plant Species

A11-4.4.25. The following invasive non-native plant species were found during the NVC Survey:

- Rhododendron was frequent in habitats regenerating from clear-felled plantation on the southern side of the survey area. This species is listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).
- Regeneration of Sitka spruce *Picea sitchensis* was also frequent in these habitats, and although this species is not listed on the Wildlife and Countryside Act (as amended) it can be invasive in upland habitats.
- A small patch of Japanese knotweed was identified at NN 22977 07261, on the B828 Glenmore Road verge in the northern part of the Proposed Scheme (excl. NC & BNG).

A11-4.5. Discussion and Conclusion

- A11-4.5.1. One designated site, Beinn an Lochain SSSI, overlaps the Proposed Scheme (excl. NC & BNG). The area of this SSSI that is within the Proposed Scheme (excl. NC & BNG) boundary is 0.33ha, which makes up 0.024% of the total area of the SSSI as a whole. Of the habitats record within this intersection, four are considered to be designated features of the SSSI. These communities make up approximately 74% of the total area intersected, with the remainder being MG9, as shown in Table A11-4.3 .
- A11-4.5.2. Further information on the SPA and SAC identified during the desk study is provided in Appendix 11.1: Report to inform Habitats Regulations Appraisal.
- A11-4.5.3. A total of 17 different Level 4 UKHab habitats and 33 NVC communities / mosaics of communities have been identified within the Proposed Scheme (excl. NC & BNG) (Refer to Table A11-4.4 and Table A11-4.5 respectively). In terms of UKHab, 4.62ha are made up of urban, unvegetated habitats (UKHab Level 2 Urban), with the remaining 25.64ha being vegetated habitats.
- A11-4.5.4. During surveys, one protected or priority plant species (as defined by Section A11-4.3.21 of this report), juniper, was identified. During surveys, three INNPS were also identified: rhododendron, Sitka spruce and Japanese knotweed.

A11-4.5.5. Habitats with potential to be GWDTE based on the NVC communities present have also been identified within the survey area (refer to Table A11-4.6). This includes the following areas within the Proposed Scheme (excl. NC & BNG) boundary:

- 7.34ha of NVC communities with high potential ground water dependency in the temporary works area and 5.65 ha in the permanent works area.
- 1.96 ha of NVC communities with moderate potential ground water dependency in the temporary works area and 1.33 ha in the permanent works area.

A11-4.5.6. Seven Annex 1 habitats and seven priority habitats were recorded within the survey area (refer to Table A11-4.6).

A11-4.5.7. Of these the following priority habitats were present within the Proposed Scheme (excl. NC & BNG) boundary:

- Blanket Bog (<0.01 ha in the temporary works area, none in the permanent works area).
- Purple Moor-grass and Rush Pasture (None in the temporary works area, <0.01 ha in the permanent works area).
- Upland Flushes, Fens and Swamps (1.22 ha in the temporary works area, 0.78 ha in the permanent works area).
- Upland Calcareous Grassland (0.2 ha in the temporary works area, <0.01 ha in the permanent works area).
- Upland Heathland (0.45ha in the temporary works area, 0.1 ha in the permanent works area).

A11-4.5.8. The following Annex 1 habitats were present within the Proposed Scheme (excl. NC & BNG) boundary:

- H1730 Blanket bogs (<0.01 ha in the temporary works area, none in the permanent works area).

- H6410 *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (None in the temporary works area, <0.01 ha in the permanent works area).
- H4030 European dry heaths (0.45 ha in the temporary works area, 0.1 ha in the permanent works area).
- H7230 Alkaline fens (0.14ha in the temporary works area, none in the permanent works area).
- H6230 *Species-rich *Nardus* grassland, on siliceous substrates in mountain areas (and submountain areas in continental Europe) (0.07 ha in the temporary works area, none in the permanent works area).

A11-4.5.9. 0.29h of woodland will be permanently lost as a result of the Proposed Scheme (excl. NC & BNG), this only includes woodland in blocks of more than 0.1ha.

A11-4.5.10. Due to the presence of INNPS within the Proposed Scheme (excl. NC & BNG) an appropriate INNPS management plan will be developed by the appointed contractor.

Annexes

Annex 11.4.A. National Vegetation Classification (NVC) Floristic Tables

Notes

For communities in which fewer than five quadrats recorded (fewer than five columns of data in the tables), frequencies are not directly comparable with the published NVC tables.

Surveyor names are not included in chapter but are held in the AWJV Project Data. Survey dates are not provided on the forms because some NVC communities were surveyed over multiple days, but are held in AtkinsRéalis's project records.

A.1. NVC Floristic Tables

A.1.1. W25a

NVC Survey Form									
Site		A83		Location/Plot					
Weather Conditions				Surveyors				Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints									
W25a									
Quadrat Reference		1	2	3		4	5		
Quadrat Size		2 x 2 m	2 x 2 m	2 x 2 m		2 x 2 m	2 x 2 m		
Co-ordinates		Object ID 79							
Aspect		West							
Slope (°)		40							
Vegetation mean height (cm) and cover (%)		40	100						
Species List (Latin Name)/Common Name		Domin value							
Grasses, Sedges & Rushes									
<i>Juncus effusus</i>		Soft rush	2						
<i>Holcus lanatus</i>		Yorkshire fog	1						
Forbs, Pteridophytes, Trees & Shrubs									
<i>Hyacinthoides non-scripta</i>		Bluebell	4						
<i>Oxalis acetosella</i>		Wood sorrel	1						
<i>Oreopteris limbosperma</i>		Lemon scented fern	1						
<i>Galium saxatile</i>		Heath bedstraw	1						
<i>Pteridium aquilinum</i>		Bracken	8						
Bryophytes & Lichens									
<i>Thuidium tamariscinum</i>			4						
<i>Rhytidiadelphus squarrosus</i>			3						
<i>Eurhynchium striatum</i>			3						
Bare Ground & Leaf Litter									
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understory 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.									
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)									
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.									

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1			0-2
1			0-1
1			0-4
1			0-1
1			0-1
1			0-1
1			0-8
1			0-4
1			0-3
1			0-3
			0-0

A.1.2. W25

NVC Survey Form							
Site	A83		Location/Plot				
Weather Conditions			Surveyors			Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints							
W25							
Quadrat Reference	1	2	3	4	5		
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m		
Co-ordinates	Object ID 8	Object ID 19	Object ID 21	Object ID 47			
Aspect				East			
Slope (°)				20			
Vegetation mean height (cm) and cover (%)				30	100		
Species List (Latin Name)/Common Name			Domin value				
Grasses, Sedges & Rushes							
<i>Deschampsia cespitosa</i>	Tufted hair grass		2	3			
<i>Juncus effusus</i>	Soft rush		3	1	2		
<i>Holcus lanatus</i>	Yorkshire fog		4	3	4		
<i>Juncus acutiflorus</i>	Sharp flowered rush			3			
Forbs, Pteridophytes, Trees & Shrubs							
<i>Pteridium aquilinum</i>	Bracken	7	7	7	7		
<i>Vaccinium myrtillus</i>	Bilberry	2					
<i>Calluna vulgaris</i>	Heather	2					
<i>Hyacinthoides non-scripta</i>	Bluebell	1	5				
<i>Ficaria verna</i>	Lesser celandine		3	3			
<i>Dryopteris sp</i>	Male fern sp		2	1			
<i>Potentilla erecta</i>	Tormentil		1				
<i>Digitalis purpurea</i>	Foxglove		1		1		
<i>Galium saxatile</i>	Heath bedstraw		1				
<i>Rubus fruticosus</i>	Bramble		4	5			
<i>Rumex acetosa</i>	Common sorrel		5	4	5		
<i>Cardamine hirsuta</i>	Hairy bittercress		1		2		
<i>Succisa pratensis</i>	Devils bit scabious			3			
<i>Valeriana officinalis</i>	Valerian			2			
<i>Angelica sylvestris</i>	Wild angelica			2			

Totals			
Frequency	DAFOR	Frequency Numeral	Range
2		II	0-3
3		III	0-3
3		III	0-4
1		I	0-3
4		IV	0-7
1		I	0-2
1		I	0-2
2		II	0-5
2		II	0-3
2		II	0-2
1		I	0-1
2		II	0-1
1		I	0-1
2		II	0-5
3		III	0-5
2		II	0-2
1		I	0-3
1		I	2-2
1		I	2-2

<i>Conopodium majus</i>	Pignut			1			1	I	1-1
<i>Rubus idaeus</i>	Wild raspberry			2			1	I	2-2
<i>Ranunculus repens</i>	Creeping buttercup					3	1	I	3-3
<i>Epilobium sp</i>	Willowherb sp					1	1	I	1-1
Bryophytes & Lichens									
<i>Sphagnum capillifolium</i>		2					1	I	0-2
<i>Hylocomium splendens</i>		3		4			2	II	0-4
<i>Thuidium tamariscinum</i>		2					1	I	0-2
<i>Plagiothecium undulatum</i>		1					1	I	0-1
<i>Hypnum jutlandicum</i>		3					1	I	0-3
<i>Rhytidiadelphus squarrosus</i>			3	4			2	II	0-4
<i>Eurhynchium sp</i>			4				1	I	0-4
<i>Pleurozium schreberi</i>			2				1	I	0-2
Bare Ground & Leaf Litter									
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.									
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)									
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.									

A.1.3. W21 / W11 Transition

NVC Survey Form										
Site	A83			Location/Plot						
Weather Conditions				Surveyors					Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints										
W21 W11 Transition										
Quadrat Reference	1		2		3		4		5	
Quadrat Size	2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m	
Co-ordinates	Object ID 10									
Aspect										
Slope (°)										
Vegetation mean height (cm) and cover (%)	3m	95								
Species List (Latin Name)/Common Name		Domin value								
Grasses, Sedges & Rushes										
<i>Deschampsia cespitosa</i>	Tufted hair grass	3								
<i>Holcus sp</i>		3								
<i>Juncus effusus</i>	Soft rush	3								
<i>Luzula sylvatica</i>	Greater woodrush	1								
<i>Agrostis capillaris</i>	Common bent	3								
Forbs, Pteridophytes, Trees & Shrubs										
<i>Rubus fruticosus</i>	Bramble	3								
<i>Hyacinthoides non-scripta</i>	Bluebell	5								
<i>Rumex acetosa</i>	Common sorrel	3								
<i>Digitalis purpurea</i>	Foxglove	2								
<i>Betula pubescens</i>	Downy birch	3								
<i>Salix sp</i>	Willow sp	5								
<i>Galium saxatile</i>	Heath bedstraw	1								
Bryophytes & Lichens										
<i>Thuidium tamariscinum</i>		5								
<i>Sphagnum sp</i>		3								
<i>Polytrichastrum sp</i>		1								
<i>Isoetes sp</i>		2								
Bare Ground & Leaf Litter										
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understory 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.										

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-3
1		I	0-3
1		I	0-3
1		I	0-1
1		I	0-3
1		I	0-3
1		I	0-5
1		I	0-3
1		I	0-2
1		I	0-3
1		I	0-5
1		I	0-1
1		I	0-5
1		I	0-3
1		I	0-1
1		I	0-2
			0-0

Domin Score: 1 <4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.

A.1.4. W17

NVC Survey Form						
Site	A83			Location/Plot		
Weather Conditions				Surveyors		Date
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints						
W17						
Quadrat Reference	1	2	3	4	5	
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	
Co-ordinates	Object ID 12	Object ID 134				
Aspect	East					
Slope (°)	30					
Vegetation mean height (cm) and cover (%)		Canopy 5-6m Ground flora 15cm	95			
Species List (Latin Name)/Common Name	Domin value					
Grasses, Sedges & Rushes						
<i>Molinia caerulea</i>	Purple moor grass	3				
Forbs, Pteridophytes, Trees & Shrubs						
<i>Vaccinium myrtillus</i>	Bilberry	5				
<i>Sorbus aucuparia</i>	Rowan	3				
<i>Betula sp</i>	Birch sp	2				
<i>Blechnum spicant</i>	Hard fern	1				
<i>Picea sitchensis</i>	Sitka spruce	2				
<i>Corylus avellana</i>	Hazel	4				
<i>Rhododendron ponticum</i>	Rhododendron	2				
<i>Dryopteris dilatata</i>	Broad buckler fern		1			
Bryophytes & Lichens						
<i>Sphagnum capillifolium</i>		4				
<i>Sphagnum palustre</i>		4				
<i>Sphagnum fallax agg</i>		5	7			
<i>Dicranum magus</i>		3				
<i>Campylopus flexuosus</i>		1				

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-3
1		I	0-5
1		I	0-3
1		I	0-2
1		I	0-1
1		I	0-2
1		I	0-4
1		I	0-2
1		I	0-1
1		I	0-4
1		I	0-4
2		II	0-7
1		I	0-3
1		I	0-1

<i>Hypnum jutlandicum</i>		4					1	I	0-4
<i>Mnium hornum</i>		2					1	I	0-2
<i>Rhitiadelphus loreus</i>		3	4				2	II	0-4
<i>Polytrichastrum sp</i>		3					1	I	0-3
<i>Pleurozium schreberi</i>		3	4				2	II	0-4
<i>A leafy liverwort</i>		3	2				2	II	0-3
<i>Polytrichum commune</i>			5				1	I	0-5
<i>Hylocomium splendens</i>			3				1	I	0-3
<i>Sphagnum fimbriatum</i>			4				1	I	0-4
<i>Plagiothecium undulatum</i>			3				1	I	0-3
<i>Thuidium tamariscinum</i>			3				1	I	0-3
Bare Ground & Leaf Litter									0-0
<p>Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.</p> <p>Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)</p> <p>DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.</p>									

A.1.5. W16

NVC Survey Form										
Site	A83				Location/Plot					
Weather Conditions					Surveyors			Date		
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints										
W16										
Quadrat Reference	1		2	3	4	5				
Quadrat Size	2 x 2 m		2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m				
Co-ordinates	Object ID 185									
Aspect	North east									
Slope (°)	30									
Vegetation mean height (cm) and cover (%)	Canopy 8m									
	Ground flora 3cm		30							
Species List (Latin Name)/Common Name		Domin value								
Grasses, Sedges & Rushes										
Forbs, Pteridophytes, Trees & Shrubs										
<i>Vaccinium myrtillus</i>	Bilberry	3								
<i>Dryopteris dilatata</i>	Broad buckler fern	1								
<i>Blechnum spicant</i>	Hard fern	1								
Bryophytes & Lichens										
<i>Thuidium tamariscinum</i>		5								
<i>Hypnum jutlandicum</i>		2								
<i>Rhitiadelphus loreus</i>		2								
<i>Sphagnum fallax agg</i>		3								
<i>Plagiothecium undulatum</i>		3								
<i>Dicranum majus</i>		4								
Bare Ground & Leaf Litter										
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.										
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)										
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.										

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1			3-3
1			0-1
1			0-1
1			0-5
1			0-2
1			0-2
1			0-3
1			0-3
1			0-4
			0-0

A.1.6. W11

NVC Survey Form						
Site	A83			Location/Plot		
Weather Conditions				Surveyors	Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints						
W11						
Quadrat Reference	1		2	3	4	5
Quadrat Size	2 x 2 m		2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m
Co-ordinates	Object ID 29					
Aspect						
Slope (°)						
Vegetation mean height (cm) and cover (%)	Canopy 3m Ground flora 20cm		98			
Species List (Latin Name)/Common Name	Domin value					
Grasses, Sedges & Rushes						
<i>Holcus mollis</i>	Creeping soft grass	3				
Forbs, Pteridophytes, Trees & Shrubs						
<i>Salix aurita</i>	Eared willow	8				
<i>Hyacinthoides non-scripta</i>	Bluebell	7				
<i>Dryopteris affinis</i>	Scaly male fern	5				
<i>Rubus fruticosus</i>	Bramble	3				
<i>Rumex acetosa</i>	Common sorrel	3				
<i>Pteridium aquilinum</i>	Bracken	3				
<i>Ranunculus repens</i>	Creeping buttercup	1				
Bryophytes & Lichens						
<i>Thuidium tamariscinum</i>		5				
<i>Eurhynchium striatum</i>		3				
<i>Rhytidiadelphus squarrosus</i>		3				
<i>Hypnum jutlandicum</i>		3				
Bare Ground & Leaf Litter						
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.						
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)						
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.						

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-3
1		I	0-8
1		I	0-7
1		I	0-5
1		I	0-3
1		I	0-3
1		I	0-1
1		I	0-5
1		I	0-3
1		I	0-3
1		I	0-3
			0-0

A.1.7. U20

NVC Survey Form										
Site	A83		Location/Plot							
Weather Conditions			Surveyors			Date				
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints										
U20										
Quadrat Reference	1		2		3		4		5	
Quadrat Size	2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m	
Co-ordinates	Object ID 53		Object ID 73							
Aspect	South		South							
Slope (°)	25		30							
Vegetation mean height (cm) and cover (%)	20	100	15	100						
Species List (Latin Name)/Common Name			Domin value							
Grasses, Sedges & Rushes										
<i>Deschampsia cespitosa</i>	Tufted hair grass	3								
<i>Carex binervis</i>	Green ribbed sedge	2								
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	3	4							
<i>Juncus effusus</i>	Soft rush		1							
<i>Holcus lanatus</i>	Yorkshire fog		3							
<i>Carex pilulifera</i>	Pill sedge		2							
<i>Carex caryophyllea</i>	Spring sedge		1							
Forbs, Pteridophytes, Trees & Shrubs										
<i>Pteridium aquilinum</i>	Bracken	5	4							
<i>Angelica sylvestris</i>	Wild angelica	2								
<i>Ranunculus repens</i>	Creeping buttercup	4								
<i>Cerastium fontanum</i>	Tormentil	4	4							
<i>Galium saxatile</i>	Heath bedstraw	3	5							
<i>Conopodium majus</i>	Pignut		2							
<i>Campanula rotundifolia</i>	Harebell		2							
<i>Rumex acetosa</i>	Common sorrel		3							
<i>Ranunculus acris</i>	Meadow Buttercup		2							
<i>Cirsium palustre</i>	Marsh thistle		1							
Bryophytes & Lichens										

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-3
1		I	0-2
2		II	0-4
1		I	0-1
1		I	0-3
1		I	0-2
1		I	0-1
2		II	0-5
1		I	0-2
1		I	0-4
2		II	0-4
2		II	0-5
1		I	0-2
1		I	0-2
1		I	0-3
1		I	0-2
1		I	0-1

<i>Rhytidiadelphus squarrosus</i>	Springy turf moss	6	5				2		II	0-6
<i>Hylocomium splendens</i>	Glittering wood moss		4				1		I	0-4
Bare Ground & Leaf Litter										0-0
<p>Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.</p> <p>Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)</p> <p>DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.</p>										

A.1.8. U5 / H14 / U20 / M23 Transition

NVC Survey Form									
Site	A83		Location/Plot						
Weather Conditions			Surveyors		Date				
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints									
U5 H14 U20 M23 Transition									
Quadrat Reference	1	2	3	4	5				
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m				
Co-ordinates	Object ID 76								
Aspect	West								
Slope (°)	30								
Vegetation mean height (cm) and cover (%)	10	97							
Species List (Latin Name)/Common Name		Domin value							
Grasses, Sedges & Rushes									
<i>Nardus stricta</i>	Mat grass	5							
<i>Danthonia decumbens</i>	Heath grass	2							
<i>Agrostis capillaris</i>	Common bent	3							
<i>Festuca ovina</i>	Sheeps fescue	4							
<i>Deschampsia flexuosa</i>	Wavy hair grass	3							
<i>Carex binervis</i>	Green ribbed sedge	3							
<i>Juncus squarrosus</i>	Heath rush	3							
<i>Juncus acutiflorus</i>	Sharp flowered rush	3							
<i>Luzula multiflora</i>	Heath wood rush	1							
Forbs, Pteridophytes, Trees & Shrubs									
<i>Galium saxatile</i>	Heath bedstraw	4							
<i>Potentilla erecta</i>	Tormentil	3							
<i>Vaccinium myrtillus</i>	Bilberry	2							
<i>Calluna vulgaris</i>	Heather	2							
<i>Trocdaris verticillata</i>	Whorled caraway	3							
<i>Blechnum spicant</i>	Hard fern	1							
<i>Pedicularis sylvatica</i>	Common lousewort	2							
Bryophytes & Lichens									
<i>Rhytidiadelphus squarrosus</i>	Springy turf moss	3							
<i>Polytrichum commune</i>	Common haircap	3							

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-5
1		I	0-2
1		I	0-3
1		I	0-4
1		I	0-3
1		I	0-3
1		I	0-3
1		I	0-3
1		I	0-1
1		I	0-4
1		I	0-3
1		I	0-2
1		I	0-2
1		I	0-3
1		I	0-1
1		I	0-2
1		I	0-3
1		I	0-3

<i>Hylocomium splendens</i>	Glittering wood moss	4					1	I	0-4
<i>Rhitiadelphus loreus</i>	Little shaggy moss	2					1	I	0-2
Bare Ground & Leaf Litter									0-0

Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.

Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)

DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.

A.1.9. U4

NVC Survey Form									
Site	A83		Location/Plot						
Weather Conditions			Surveyors				Date		
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints									
U4									
Quadrat Reference	1	2	3	4	5				
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m				
Co-ordinates	Object ID 158								
Aspect	West								
Slope (°)	15								
Vegetation mean height (cm) and cover (%)	8	95							
Species List (Latin Name)/Common Name		Domin value							
Grasses, Sedges & Rushes									
<i>Festuca ovina</i>	Sheeps fescue	5							
<i>Agrostis capillaris</i>	Common bent	8							
<i>Holcus lanatus</i>	Yorkshire fog	2							
<i>Juncus effusus</i>	Soft rush	2							
<i>Carex binervis</i>	Green ribbed sedge	2							
Forbs, Pteridophytes, Trees & Shrubs									
<i>Trocdaris verticillata</i>	Whorled caraway	1							
<i>Potentilla erecta</i>	Tormentil	2							
<i>Succisa pratensis</i>	Devils bit scabious	4							
<i>Viola palustris</i>	Marsh violet	1							
Bryophytes & Lichens									
<i>Rhytidiadelphus squarrosus</i>	Springy turf moss	4							
<i>Thuidium tamariscinum</i>	Tamarisk Moss	3							
<i>Hylocomium splendens</i>	Glittering wood moss	7							
Bare Ground & Leaf Litter									
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.									
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)									
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.									

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-5
1		I	0-8
1		I	0-2
1		I	0-2
1		I	0-2
1		I	0-1
1		I	0-2
1		I	0-4
1		I	0-1
1		I	0-4
1		I	0-3
1		I	0-7
			0-0

A.1.10. U2

NVC Survey Form									
Site	A83		Location/Plot						
Weather Conditions			Surveyors				Date		
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints									
U2									
Quadrat Reference	1	2	3	4	5				
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m				
Co-ordinates	Object ID 33								
Aspect	North								
Slope (°)	30								
Vegetation mean height (cm) and cover (%)	10	100							
Species List (Latin Name)/Common Name		Domin value							
Grasses, Sedges & Rushes									
<i>Deschampsia flexuosa</i>	Wavy hair grass	6							
<i>Juncus effusus</i>	Soft rush	1							
<i>Molinia caerulea</i>	Purple moor grass	1							
Forbs, Pteridophytes, Trees & Shrubs									
<i>Vaccinium myrtillus</i>	Bilberry	4							
<i>Galium saxatile</i>	Heath bedstraw	4							
<i>Dryopteris sp</i>		1							
<i>Blechnum spicant</i>	Hard fern	1							
Bryophytes & Lichens									
<i>Rhitiadelphus loreus</i>		4							
<i>Thuidium tamariscinum</i>		4							
<i>Hylocomium splendens</i>		2							
<i>Hypnum jutlandicum</i>		3							
<i>Plagiothecium undulatum</i>		1							
Bare Ground & Leaf Litter									
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understory 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.									
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)									
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.									

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-6
1		I	0-1
1		I	0-1
1		I	0-4
1		I	0-4
1		I	0-1
1		I	0-1
1		I	0-4
1		I	0-4
1		I	0-2
1		I	0-3
1		I	0-1
			0-0

A.1.11. MG10

NVC Survey Form					
Site	A83		Location/Plot		
Weather Conditions			Surveyors		Date
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints					
MG10					
Quadrat Reference	1	2	3	4	5
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m
Co-ordinates	Object ID 113	Object ID 130	Object ID 159		
Aspect					
Slope (°)	Relativley flat	Relativley flat			
Vegetation mean height (cm) and cover (%)	50 100	40 99	5 97		
Species List (Latin Name)/Common Name		Domin value			
Grasses, Sedges & Rushes					
<i>Juncus effusus</i>	Soft rush	5	5	4	
<i>Juncus acutiflorus</i>	Sharp flowered rush	4	4		
<i>Deschampsia cespitosa</i>	Tufted hair grass	4	1		
<i>Agrostis capillaris</i>	Common bent	4	4	4	
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	3			
<i>Holcus lanatus</i>	Yorkshire fog	6	7	8	
<i>Carex nigra</i>	Common sedge		1	4	
<i>Carex leporina</i>	Oval sedge		1		
<i>Carex echinata</i>	Star sedge				
<i>Juncus bulbosus</i>	Bulbous rush			2	
Forbs, Pteridophytes, Trees & Shrubs					
<i>Ranunculus repens</i>	Creeping buttercup	3			
<i>Trocodaris verticillata</i>	Whorled caraway	3	2		
<i>Rumex acetosa</i>	Common sorrel	3			
<i>Lotus pedunculatus</i>	Greater birds foot trefoil		3		
<i>Ranunculus acris</i>	Meadow Buttercup		3		
<i>Ranunculus flammula</i>	Lesser spearwort		1		
<i>Trifolium repens</i>	White clover			4	

Totals			
Frequency	DAFOR	Frequency Numeral	Range
3		III	0-5
2		II	0-4
2		II	0-4
3		III	0-4
1		I	0-3
3		III	0-8
2		II	0-4
1		I	0-1
			0-0
1		I	0-2
1		I	0-3
2		II	0-3
1		I	0-3
1		I	0-3
1		I	0-1
1		I	0-4

<i>Potentilla erecta</i>	Tormentil			2			1	I	0-2
<i>Stellaria alsine</i>	Bog stichwort			2			1	I	0-2
<i>Ranunculus flammula</i>	Lesser spearwort			1			1	I	0-1
<i>Succisa pratensis</i>	Devils bit scabious			2			1	I	0-2
<i>Viola palustris</i>	Marsh violet			3			1	I	0-3
<i>Galium saxatile</i>	Heath bedstraw			1			1	I	0-1
Bryophytes & Lichens									
<i>Rhytidiadelphus squarrosus</i>			2	5			2	II	0-5
<i>Polytrichum commune</i>				2			1	I	0-2
Bare Ground & Leaf Litter									
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.									
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)									
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.									

A.1.12. MG9

NVC Survey Form							
Site	A83		Location/Plot				
Weather Conditions			Surveyors			Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints							
MG9							
Quadrat Reference	1	2	3	4	5		
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m		
Co-ordinates	Object ID 14	Object ID 23	Object ID 48				
Aspect			East				
Slope (°)			30				
Vegetation mean height (cm) and cover (%)		45 98-99	20				
Species List (Latin Name)/Common Name			Domin value				
Grasses, Sedges & Rushes							
<i>Deschampsia cespitosa</i>	Tufted hair grass	5	6	7			
<i>Juncus acutiflorus</i>	Sharp flowered rush	5	1	3			
<i>Juncus effusus</i>	Soft rush		5				
<i>Holcus lanatus</i>	Yorkshire fog			3			
<i>Anthoxanthum odoratum</i>	Sweet vernal grass			3			
<i>Festuca ovina</i>	Sheeps fescue			2			
Forbs, Pteridophytes, Trees & Shrubs							
<i>Cardamine pratensis</i>	Cuckoo flower	1					
<i>Veronica chamaedrys</i>	Germander speedwell	2					
<i>Galium palustre</i>	Marsh bedstraw	3					
<i>Valeriana officinalis</i>	Valerian	2					
<i>Anemone nemorosa</i>	Wood anemone	2					
<i>Epilobium sp</i>	Willowherb sp	2					
<i>Potentilla erecta</i>	Tormentil	1		2			
<i>Conopodium majus</i>	Pignut	4					
<i>Ranunculus ficaria</i>	Lesser celandine	3					
<i>Rumex acetosa</i>	Common sorrel	4					
<i>Rubus fruticosus</i>	Bramble		3				
<i>Ajuga reptans</i>	Bugle		1				

Totals			
Frequency	DAFOR	Frequency Numeral	Range
3		III	0-7
3		III	0-5
1		I	0-5
1		I	0-3
1		I	0-3
1		I	0-2
1		I	0-1
1		I	0-2
1		I	0-3
1		I	0-2
1		I	0-2
2		II	0-2
1		I	0-4
1		I	0-3
1		I	0-4
1		I	0-3
1		I	0-1

<i>Cirsium palustre</i>	Marsh thistle		1	3			2	II	0-3
<i>Viola palustris</i>	Marsh violet		1				1	I	0-1
<i>Dryopteris sp</i>	Male fern sp		1				1	I	0-1
<i>Scrophularia nodosa</i>	Common figwort		1				1	I	0-1
<i>Blechnum spicant</i>	Hard fern		1				1	I	0-1
<i>Dryopteris dilatata</i>	Broad buckler fern			3			1	I	0-3
<i>Epilobium sp</i>	Willowherb sp			2			1	I	0-2
<i>Angelica sylvestris</i>	Wild angelica			1			1	I	0-1
Bryophytes & Lichens									
<i>Rhytidiadelphus squarrosus</i>		4		4			2	II	0-4
<i>Calliergonella cuspidata</i>		3					1	I	0-3
<i>Thuidium tamariscinum</i>			6				1	I	0-6
<i>Rhytidiadelphus loreus</i>			2				1	I	0-2
<i>Sphagnum sp</i>			3				1	I	0-3
<i>Hylocomium splendens</i>				2			1	I	0-2
<i>Eurhynchium striatum</i>				4			1	I	0-4
Bare Ground & Leaf Litter									
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.									
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)									
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.									

A.1.13. MG9 / W1 / W21 Mosaic

NVC Survey Form							
Site	A83		Location/Plot				
Weather Conditions			Surveyors			Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints							
MG9 W1 W21							
Quadrat Reference	1	2	3	4	5		
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m		
Co-ordinates	Object ID 15						
Aspect							
Slope (°)							
Vegetation mean height (cm) and cover (%)							
Species List (Latin Name)/Common Name		Domin value					
Grasses, Sedges & Rushes							
<i>Molinia caerulea</i>	Purple moor grass	1					
<i>Juncus acutiflorus</i>	Sharp flowered rush	3					
<i>Juncus effusus</i>	Soft rush	2					
Forbs, Pteridophytes, Trees & Shrubs							
<i>Rubus fruticosus</i>	Bramble	4					
<i>Rumex acetosa</i>	Common sorrel	4					
<i>Dryopteris affinis</i>	Scaly male fern	1					
<i>Salix aurita</i>	Eared willow	9					
Bryophytes & Lichens							
<i>Frullania sp</i>		2					
<i>Rhytidiadelphus squarrosus</i>		2					
<i>Orthotrichum sp</i>		2					
Bare Ground & Leaf Litter							
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.							
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)							
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.							

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1			0-1
1			0-3
1			0-2
1			0-4
1			0-4
1			0-1
1			0-9
1			0-2
1			0-2
1			0-2
			0-0

A.1.14. M25

NVC Survey Form					
Site	A83		Location/Plot		
Weather Conditions			Surveyors		Date
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints					
M25					
Quadrat Reference	1	2	3	4	5
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m
Co-ordinates	Object ID 177				
Aspect					
Slope (°)	Fairly flat				
Vegetation mean height (cm) and cover (%)	10				
Species List (Latin Name)/Common Name		Domin value			
Grasses, Sedges & Rushes					
<i>Molinia caerulea</i>	Purple moor grass	9			
<i>Juncus acutiflorus</i>	Sharp flowered rush	1			
<i>Carex echinata</i>	Star sedge	12			
Forbs, Pteridophytes, Trees & Shrubs					
<i>Narthecium ossifragum</i>	Bog asphodel	4			
<i>Potentilla erecta</i>	Tormentil	3			
Bryophytes & Lichens					
<i>Sphagnum papillosum</i>		3			
<i>Thuidium tamariscinum</i>		1			
<i>Sphagnum fallax agg</i>		1			
<i>Rhytidiadelphus squarrosus</i>		1			
Bare Ground & Leaf Litter					
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understory 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.					
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)					
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.					

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-9
1		I	0-1
1		I	0-12
1		I	0-4
1		I	0-3
1		I	0-3
1		I	0-1
1		I	0-1
1		I	0-1
			0-0

A.1.15. M25 / H21 Mosaic

NVC Survey Form							
Site	A83		Location/Plot				
Weather Conditions			Surveyors			Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints							
M25 H21 Mosaic							
Quadrat Reference	1	2	3	4	5		
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m		
Co-ordinates	Object ID 100	Object ID 100 sup quadrat	Object ID 101				
Aspect	North east	North east	north east				
Slope (°)	40	40	40				
Vegetation mean height (cm) and cover (%)	20 100	20 100	20 100				
Species List (Latin Name)/Common Name	100						
Grasses, Sedges & Rushes							
<i>Molinia caerulea</i>	Purple moor grass	5	4	5			
<i>Deschampsia flexuosa</i>	Wavy hair grass	2		2			
<i>Juncus acutiflorus</i>	Sharp flowered rush		1				
Forbs, Pteridophytes, Trees & Shrubs							
<i>Calluna vulgaris</i>	Heather	3	7	3			
<i>Vaccinium myrtillus</i>	Bilberry	6	3	6			
<i>Potentilla erecta</i>	Tormentil	2	3	2			
<i>Sorbus aucuparia</i>	Rowan	1					
<i>Narthecium ossifragum</i>	Bog asphodel		5	1			
Bryophytes & Lichens							
<i>Hylocomium splendens</i>		7	4	7			
<i>Sphagnum capillifolium</i>				4			
<i>Racomitrium sp</i>		4		4			
<i>Sphagnum papillosum</i>			1				
Bare Ground & Leaf Litter							
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.							
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)							
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.							

Totals			
Frequency	DAFOR	Frequency Numeral	Range
3		III	0-5
2		II	0-2
1		I	0-1
3		III	3-7
3		III	0-6
3		III	0-3
1		I	0-1
2		II	0-5
3		III	0-7
1		I	0-4
2		II	0-4
1		I	0-1
			0-0

A.1.16. M23b

NVC Survey Form										
Site	A83		Location/Plot							
Weather Conditions			Surveyors			Date				
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints										
M23b										
Quadrat Reference	1		2		3		4		5	
Quadrat Size	2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m	
Co-ordinates	Object ID 16									
Aspect										
Slope (°)										
Vegetation mean height (cm) and cover (%)										
Species List (Latin Name)/Common Name			Domin value							
Grasses, Sedges & Rushes										
<i>Juncus acutiflorus</i>	Sharp flowered rush		7							
<i>Deschampsia cespitosa</i>	Tufted hair grass		1							
<i>Agrostis capillaris</i>	Common bent		2							
Forbs, Pteridophytes, Trees & Shrubs										
<i>Ficaria verna</i>	Lesser celandine		5							
<i>Epilobium palustre</i>	Marsh willowherb		2							
<i>Ranunculus acris</i>	Meadow Buttercup		3							
<i>Galium palustre</i>	Marsh bedstraw		3							
<i>Rumex acetosa</i>	Common sorrel		2							
<i>Geranium robertianum</i>	Herb robert		1							
<i>Centaurea nigra</i>	Common knapweed		2							
<i>Filipendula ulmaria</i>	Meadowsweet		3							
<i>Valeriana officinalis</i>	Valerian		4							
<i>Caltha palustris</i>	Marsh marigold		1							
<i>Veronica chamaedrys</i>	Germanger speedwell		3							
<i>Ranunculus repens</i>	Creeping buttercup		2							
<i>Ajuga reptans</i>	Bugle		1							
Bryophytes & Lichens										
<i>Thuidium tamariscinum</i>			2							

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-7
1		I	0-1
1		I	0-2
1		I	0-5
1		I	0-2
1		I	0-3
1		I	0-3
1		I	0-2
1		I	0-1
1		I	0-2
1		I	0-3
1		I	0-4
1		I	0-1
1		I	0-3
1		I	0-2
1		I	0-1
1		I	0-2

<i>Rhytiadelphus squarrosus</i>		3						1	I	0-3
Bare Ground & Leaf Litter										
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.										
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)										
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.										

A.1.17. M23a

NVC Survey Form										
Site	A83		Location/Plot							
Weather Conditions			Surveyors					Date		
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints										
M23a										
Quadrat Reference	1		2		3		4		5	
Quadrat Size	2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m	
Co-ordinates	Object ID 99									
Aspect										
Slope (°)										
Vegetation mean height (cm) and cover (%)	70	100								
Species List (Latin Name)/Common Name			Domin value							
Grasses, Sedges & Rushes										
<i>Juncus acutiflorus</i>	Sharp flowered rush		7							
<i>Molinia caerulea</i>	Purple moor grass		1							
<i>Agrostis sp</i>	Bent sp		1							
<i>Holcus lanatus</i>	Yorkshire fog		2							
Forbs, Pteridophytes, Trees & Shrubs										
<i>Viola palustris</i>	Marsh violet		4							
<i>Rumex acetosa</i>	Common sorrel		1							
<i>Pedicularis palustris</i>	Marsh lousewort		2							
<i>Epilobium palustre</i>	Marsh willowherb		2							
Bryophytes & Lichens										
<i>Sphagnum palustre</i>			2							
<i>Sphagnum fallax agg</i>			3							
<i>Sphagnum fimbriatum</i>			3							
Bare Ground & Leaf Litter										
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.										
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)										
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.										

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1			0-7
1			0-1
1			0-1
1			0-2
1			0-4
1			0-1
1			0-2
1			0-2
1			0-2
1			0-3
1			0-3
			0-0

A.1.18. M23

NVC Survey Form					
Site	A83		Location/Plot		
Weather Conditions			Surveyors		Date
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints					
M23					
Quadrat Reference	1	2	3	4	5
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m
Co-ordinates	Object ID 64	Object ID 91			
Aspect		West			
Slope (°)		20			
Vegetation mean height (cm) and cover (%)		35 95			
Species List (Latin Name)/Common Name		Domin value			
Grasses, Sedges & Rushes					
<i>Juncus acutiflorus</i>	Sharp flowered rush	7	8		
<i>Juncus effusus</i>	Soft rush	3			
<i>Luzula multiflora</i>	Heath wood rush		2		
Forbs, Pteridophytes, Trees & Shrubs					
<i>Galium palustre</i>	Marsh bedstraw	3			
<i>Epilobium palustre</i>	Marsh willowherb	3			
<i>Cardamine flexuosa</i>	Wavy bittercress	2			
<i>Rumex acetosa</i>	Common sorrel	4			
<i>Ranunculus acris</i>	Meadow buttercup	1	1		
<i>Viola palustris</i>	Marsh violet	1			
<i>Trocdaris verticillata</i>	Whorled caraway	2	3		
<i>Oreopteris limbosperma</i>	Lemon scented fern	1			
<i>Cirsium palustre</i>	Marsh thistle	1			
<i>Succisa pratensis</i>	Devils bit scabious		8		
<i>Potentilla erecta</i>	Tormentil		3		
<i>Angelica sylvestris</i>	Wild angelica		2		
<i>Lotus pedunculatus</i>	Greater birds foot trefoil		3		
<i>Narthecium ossifragum</i>	Bog asphodel		3		
<i>Ranunculus ficaria</i>	Lesser celandine		2		

Totals			
Frequency	DAFOR	Frequency Numeral	Range
2		II	0-8
1		I	0-3
1		I	0-2
1		I	0-3
1		I	0-3
1		I	0-2
1		I	0-4
2		II	0-1
1		I	0-1
2		II	0-3
1		I	0-1
1		I	0-1
1		I	0-8
1		I	0-3
1		I	0-2
1		I	0-3
1		I	0-3
1		I	0-2

Bryophytes & Lichens										
<i>Polytrichum commune</i>		3					1		0-3	
<i>Hylocomium splendens</i>		2					1		0-2	
<i>Sphagnum palustre</i>		3					1		0-3	
<i>Aulacomnium palustre</i>			2				1		0-2	
<i>Rhytidiadelphus squarrosus</i>			3				1		0-3	
<i>Eurhynchium striatum</i>			2				1		0-2	
<i>Calliergonella cuspidata</i>			3				1		0-3	
<i>Pleurozium sp</i>			2				1		0-2	
Bare Ground & Leaf Litter									0-0	
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.										
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)										
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.										

A.1.19. M23 / M26 Mosaic

NVC Survey Form					
Site	A83		Location/Plot		
Weather Conditions			Surveyors		Date
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints					
M23 M26 Mosaic					
Quadrat Reference	1	2	3	4	5
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m
Co-ordinates	Object ID 75				
Aspect	West				
Slope (°)	10				
Vegetation mean height (cm) and cover (%)	25				
Species List (Latin Name)/Common Name		Domin value			
Grasses, Sedges & Rushes					
<i>Juncus acutiflorus</i>	Sharp flowered rush	7			
<i>Molinia caerulea</i>	Purple moor grass	5			
<i>Eriophorum angustifolium</i>	Common sedge	3			
Forbs, Pteridophytes, Trees & Shrubs					
<i>Crepis paludosa</i>	Marsh hawk's beard	6			
<i>Ranunculus flammula</i>	Lesser spearwort	2			
<i>Angelica sylvestris</i>	Wild angelica	3			
<i>Trocdaris verticillata</i>	Whorled caraway	2			
<i>Ranunculus acris</i>	Meadow buttercup	3			
<i>Potentilla erecta</i>	Tormentil	1			
<i>Cardamine flexuosa</i>	Wavy bittercress	1			
<i>Galium palustre</i>	Marsh bedstraw	1			
Bryophytes & Lichens					
<i>Plagiothecium undulatum</i>		1			
Bare Ground & Leaf Litter					
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.					
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)					
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.					

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-7
1		I	0-5
1		I	0-3
1		I	0-6
1		I	0-2
1		I	0-3
1		I	0-2
1		I	0-3
1		I	0-1
1		I	0-1
1		I	0-1
1		I	0-1
			0-0

A.1.20. M23 / M25 Mosaic

NVC Survey Form							
Site	A83		Location/Plot				
Weather Conditions			Surveyors			Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints							
M23 M25 Mosaic							
Quadrat Reference	1	2	3		4	5	
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m		2 x 2 m	2 x 2 m	
Co-ordinates	Object ID 55	Object ID 106	Object ID 106 sup quadrat		Object ID 192	Object ID 268	
Aspect	south	South east	North west			South west	
Slope (°)	15	20	15			25	
Vegetation mean height (cm) and cover (%)	30	40	99	15	100	40	100
Species List (Latin Name)/Common Name		Domin value					
Grasses, Sedges & Rushes							
<i>Juncus acutiflorus</i>	Sharp flowered rush	8	6	7		6	4
<i>Carex panicea</i>	Carnation sedge	3				3	
<i>Molinia caerulea</i>	Purple moor grass		7	3		6	5
<i>Anthoxanthum odoratum</i>	Sweet vernal grass		1	3			
<i>Holcus lanatus</i>	Yorkshire fog		2			1	3
<i>Deschampsia flexuosa</i>	Wavy hair grass		1	3		3	1
<i>Agrostis vinealis</i>	Brown bent			5			
<i>Holcus mollis</i>	Creeping soft grass			3			
<i>Luzula multiflora</i>	Heath wood rush			1			
<i>Trichophorum germanicum</i>	Deer grass					2	
<i>Juncus squarrosus</i>	Heath rush					2	
<i>Carex echinata</i>	Star sedge						1
Forbs, Pteridophytes, Trees & Shrubs							
<i>Succisa pratensis</i>	Devils bit scabious	4					5
<i>Angelica sylvestris</i>	Wild angelica	2					
<i>Trocdaris verticillata</i>	Whorled caraway	3					
<i>Galium palustre</i>	Marsh bedstraw	3		2			
<i>Lysimachia nemorum</i>	Yellow pimpernell	1					

Totals			
Frequency	DAFOR	Frequency Numeral	Range
5		V	4-8
2		II	0-3
4		IV	0-7
2		II	0-3
3		III	0-3
4		IV	0-3
1		I	0-5
1		I	0-3
1		I	0-1
1		I	0-2
1		I	0-2
1		I	0-1
2		II	0-5
1		I	0-2
1		I	0-3
2		II	0-3
1		I	0-1

<i>Epilobium palustre</i>	Marsh willowherb	1				1	2	II	0-1
<i>Cirsium palustre</i>	Marsh thistle	2					1	I	0-2
<i>Galium saxatile</i>	Heath bedstraw		3				1	I	0-3
<i>Cerastium fontanum</i>	Tormentil		2	3		4	3	IV	0-4
<i>Rumex acetosa</i>	Common sorrel		1				1	I	0-1
<i>Narthecium ossifragum</i>	Bog asphodel					4	4	II	0-4
<i>Trocodaris verticillata</i>	Whorled caraway					2	2	II	0-2
<i>Ranunculus acris</i>	Meadow buttercup						2	I	0-2
<i>Plantago lanceolata</i>	Ribwort plantain						1	I	0-1
<i>Pedicularis sylvatica</i>	Common lousewort						1	I	0-1
<i>Lysimachia nemorum</i>	Yellow pimpernell						1	I	0-1
<i>Achillea ptarmica</i>	Sneezewort						1	I	0-1
Bryophytes & Lichens									
<i>Calliergonella cuspidata</i>		4						I	0-4
<i>Sphagnum sp</i>		3						I	0-3
<i>Rhytidiadelphus squarrosus</i>		2	2	4				III	0-4
<i>Eurhynchium striatum</i>			4					I	0-4
<i>Sphagnum palustre</i>			4	3				II	0-4
<i>Polytrichum commune</i>				3				I	0-3
<i>Hylocomium splendens</i>				5				I	0-5
<i>Aulacomnium palustre</i>						2		I	0-2
<i>Sphagnum papillosum</i>						3		I	0-3
<i>Sphagnum capillifolium</i>						4		I	0-4
<i>Sphagnum fallax agg</i>							1	I	0-1
Bare Ground & Leaf Litter									0-0
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.									
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)									
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.									

A.1.21. M21

NVC Survey Form

Site	A83		Location/Plot		
Weather Conditions		Surveyors		Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints					
M21					
Quadrat Reference	1	2	3	4	5
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m
Co-ordinates	Object ID 116				
Aspect					
Slope (°)	Fairly flat				
Vegetation mean height (cm) and cover (%)	10	97-98			
Species List (Latin Name)/Common Name		Domin value			
Grasses, Sedges & Rushes					
<i>Carex echinata</i>	Star sedge	3			
<i>Nardus stricta</i>	Mat grass	2			
Forbs, Pteridophytes, Trees & Shrubs					
<i>Succisa pratensis</i>	Devils bit scabious	4			
<i>Polygala serpyllifolia</i>	Heath milkwort	2			
<i>Narthecium ossifragum</i>	Bog asphodel	6			
<i>Potentilla erecta</i>	Tormentil	3			
<i>Trocdaris verticillata</i>	Whorled caraway	2			
Bryophytes & Lichens					
<i>Sphagnum papillosum</i>		8			
<i>Sphagnum rubellum</i>		4			
<i>Sphagnum fallax agg</i>		4			
<i>Sphagnum denticulatum</i>		2			
Bare Ground & Leaf Litter					
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.					
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)					
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.					

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-3
1		I	0-2
1		I	0-4
1		I	0-2
1		I	0-6
1		I	0-3
1		I	0-2
1		I	0-8
1		I	0-4
1		I	0-4
1		I	0-2
			0-0

A.1.22. M18 / M2 Mosaic

NVC Survey Form

Site	A83		Location/Plot			
Weather Conditions			Surveyors		Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints						
M18 M2 Mosaic						
Quadrat Reference	1	2	3	4	5	
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	
Co-ordinates	Object ID 107	Object ID 107 sup quadrat				
Aspect						
Slope (°)						
Vegetation mean height (cm) and cover (%)	5	90	5	99		
Species List (Latin Name)/Common Name			Domin value			
Grasses, Sedges & Rushes						
<i>Eriophorum angustifolium</i>	Common cotton grass	5	4			
<i>Molinia caerulea</i>	Purple moor grass	3	1			
<i>Eriophorum vaginatum</i>	Hares tail cottongrass	2				
<i>Carex echinata</i>	Star sedge		1			
Forbs, Pteridophytes, Trees & Shrubs						
<i>Narthecium ossifragum</i>	Bog asphodel	5				
<i>Drosera rotundifolia</i>	Round leaved sundew	2				
Bryophytes & Lichens						
<i>Sphagnum rubellum</i>		3	1			
<i>Sphagnum cuspidatum</i>		3	9			
<i>Sphagnum papillosum</i>		8	1			
<i>Polytrichum sp.</i>		3				
Bare Ground & Leaf Litter						
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understory 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.						
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)						
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.						

Totals			
Frequency	DAFOR	Frequency Numeral	Range
2		II	0-5
2		II	0-3
1		I	0-2
1		I	0-1
1		I	0-5
1		I	0-2
2		II	0-3
2		II	0-9
2		II	0-8
1		I	0-3
			0-0

A.1.23. M10

NVC Survey Form			
Site	A83	Location/Plot	

Weather Conditions			Surveyors			Date
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints						
M10						
Quadrat Reference	1	2	3	4	5	
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	
Co-ordinates	Object ID 77					
Aspect	west					
Slope (°)	30					
Vegetation mean height (cm) and cover (%)	15					
Species List (Latin Name)/Common Name	Domin value					
Grasses, Sedges & Rushes						
<i>Carex panicea</i>	Carnation sedge	4				
<i>Nardus Stricta</i>	Mat grass	3				
<i>Carex binervis</i>	Green ribbed sedge	2				
<i>Juncus acutiflorus</i>	Sharp flowered rush	3				
<i>Carex dioica</i>	Dioecious sedge	2				
Forbs, Pteridophytes, Trees & Shrubs						
<i>Pinguicula vulgaris</i>	Common butterwort	3				
<i>Narthecium ossifragum</i>	Bog asphodel	3				
<i>Succisa pratensis</i>	Devils bit scabious	4				
<i>Potentilla erecta</i>	Tormentil	3				
<i>Calluna vulgaris</i>	Heather	3				
<i>Galium saxatile</i>	Heath bedstraw	1				
<i>Trocdaris verticillata</i>	Whorled caraway	2				
<i>Pedicularis sylvatica</i>	Common lousewort	3				
<i>Polygala serpyllifolia</i>	Heath milkwort	3				
<i>Hypericum pulchrum</i>	Slender St Johns wort	2				
Bryophytes & Lichens						
<i>Selaginella selaginoides</i>		1				
<i>Bartramia sp</i>		4				
<i>Sphagnum auriculatum</i>		1				
<i>Polytrichum commune</i>		1				
Bare Ground & Leaf Litter						

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1			0-4
1			0-3
1			0-2
1			0-3
1			0-2
1			0-3
1			0-3
1			0-4
1			0-3
1			0-3
1			0-1
1			0-2
1			0-3
1			0-3
1			0-2
1			0-1
1			0-4
1			0-1
1			0-1
			0-0

Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.

Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)

DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.

A.1.24. M6

NVC Survey Form																
Site	A83			Location/Plot												
Weather Conditions				Surveyors			Date									
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints																
M6																
Quadrat Reference	1		2		3		4		5		6		7		8	
Quadrat Size	2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m	
Co-ordinates	Object ID 63		Object ID 81		Object ID 131		Object ID 161		Object ID 22		Object ID 36		Object ID 39			
Aspect	South		West		West						West					
Slope (°)	10		10		15						25					
Vegetation mean height (cm) and cover (%)	10	97-98	30	95	10	93	7	90	20	100	15		15	100		
Species List (Latin Name)/Common Name		Domin value														
Grasses, Sedges & Rushes																
<i>Eriophorum angustifolium</i>	Common cotton grass	4	4	5	4											
<i>Carex nigra</i>	Common sedge	4														
<i>Carex panicea</i>	Carnation sedge	2	3	5	4											
<i>Juncus bulbosus</i>	Bulbous rush	2			6	3										
<i>Juncus effusus</i>	Soft rush	2				3	3									
<i>Juncus acutiflorus</i>	Sharp flowered rush		3		3			7	1							
<i>Festuca ovina</i>	Sheeps fescue		2													
<i>Carex binervis</i>	Green ribbed sedge		1													
<i>Carex echinata</i>	Star sedge			4	5	4			5							
<i>Molinia caerulea</i>	Purple moor grass			3	1											
<i>Carex demissa</i>	Common yellow sedge			3	3	1										
<i>Holcus lanatus</i>	Yorkshire fog				2											
<i>Deschampsia cespitosa</i>	Tufted hair grass					2										
<i>Deschampsia flexuosa</i>	Wavy hair grass								4							
Forbs, Pteridophytes, Trees & Shrubs																
<i>Succisa pratensis</i>	Devils bit scabious	4	4	5	4											
<i>Trocodaris verticillata</i>	Whorled caraway	3	3	2	1											
<i>Viola palustris</i>	Marsh violet	2														
<i>Pedicularis sylvatica</i>	Common lousewort	2	2													

Totals			
Frequency	DAFOR	Frequency Numeral	Range
3		III	0-5
1		I	0-4
3		III	0-5
2		II	0-6
2		II	0-3
3		III	0-7
1		I	0-2
1		I	0-1
3		III	0-5
1		I	0-3
2		II	0-3
1		I	0-2
1		I	0-2
1		I	0-4
3		III	0-5
3		III	0-3
1		I	0-2
1		I	0-2

<i>Calluna vulgaris</i>	Heather	1							1	I	0-1
<i>Cerastium fontanum</i>	Tormentil	2	3	3					2	II	0-3
<i>Narthecium ossifragum</i>	Bog asphodel	4	3	5					2	II	0-5
<i>Ranunculus flammula</i>	Lesser spearwort		2	2	3	3			3	III	0-3
<i>Pedicularis palustris</i>	Marsh lousewort			2	1				1	I	0-2
<i>Huperzia selago</i>	Fir club-moss	1							1	I	0-1
<i>Epilobium palustre</i>	Marsh willowherb					2	2	3	2	II	0-3
<i>Salix sp</i>	Willow sp					2			1	I	0-2
<i>Angelica sylvestris</i>	Wild angelica					1		1	1	I	0-1
<i>Potamogeton polygonifolius</i>	Bog pondweed					3			1	I	0-3
<i>Dryopteris affinis</i>	Scaly male fern						3		1	I	0-3
<i>Oxalis acetosella</i>	Wood sorrel						1		1	I	0-1
<i>Rumex acetosa</i>	Common sorrel						1		1	I	0-1
<i>Cirsium palustre</i>	Marsh thistle							1	1	I	0-1
<i>Galium saxatile</i>	Heath bedstraw							2	1	I	0-2
<i>Rubus fruticosus</i>	Bramble							1	1	I	0-1
Bryophytes & Lichens											
<i>Sphagnum auriculatum</i>		6	5		5				2	II	0-6
<i>Polytrichum commune</i>		2				2		5	2	II	0-5
<i>Thuidium tamariscinum</i>			1						1	I	0-1
<i>Sphagnum papillosum</i>			2		1		1	3	3	III	0-3
<i>Rhytidiadelphus squarrosus</i>					1			2	1	I	0-2
<i>Sphagnum palustre</i>						2	5	3	2	II	0-5
<i>Sphagnum fallax agg</i>						4	5	7	2	II	0-7
<i>Rhitidiadelphus loreus</i>							2		1	I	0-2
<i>Hypnum jutlandicum</i>							1	4	1	I	0-4
<i>Sphagnum subnitens</i>								3	1	I	0-3
Bare Ground & Leaf Litter											

Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understory 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.

Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)

DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.

A.1.25. M4

NVC Survey Form									
Site	A83		Location/Plot						
Weather Conditions			Surveyors		Date				
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints									
M4									
Quadrat Reference	1	2	3	4	5				
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m				
Co-ordinates	Object ID 151								
Aspect									
Slope (°)	flat								
Vegetation mean height (cm) and cover (%)	25-30	95							
Species List (Latin Name)/Common Name		Domin value							
Grasses, Sedges & Rushes									
<i>Carex rostrata</i>	Bottle sedge	8							
<i>Molinia caerulea</i>	Purple moor grass	3							
<i>Holcus lanatus</i>	Yorkshire fog	1							
Forbs, Pteridophytes, Trees & Shrubs									
<i>Cirsium palustre</i>	Marsh thistle	3							
<i>Pedicularis palustris</i>	Marsh lousewort	2							
<i>Viola palustris</i>	Marsh violet	3							
<i>Succisa pratensis</i>	Devils bit scabious	3							
<i>Narthecium ossifragum</i>	Bog asphodel	3							
<i>Potentilla erecta</i>	Tormentil	3							
Bryophytes & Lichens									
<i>Sphagnum fallax agg</i>		4							
<i>Sphagnum palustre</i>		2							
Bare Ground & Leaf Litter									
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.									
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)									
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.									

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-8
1		I	0-3
1		I	0-1
1		I	0-3
1		I	0-2
1		I	0-3
1		I	0-3
1		I	0-3
1		I	0-3
1		I	0-4
1		I	0-2
			0-0

A.1.26. M4 / M21 Mosaic

NVC Survey Form						
Site	A83		Location/Plot			
Weather Conditions			Surveyors		Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints						
M4 M21 Mosaic						
Quadrat Reference	1	2	3	4	5	
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	
Co-ordinates	Object ID 156 Q1	Object ID 156 Q2				
Aspect						
Slope (°)						
Vegetation mean height (cm) and cover (%)	20	93	5	80		
Species List (Latin Name)/Common Name		Domin value				
Grasses, Sedges & Rushes						
<i>Carex rostrata</i>	Bottle sedge	5	7			
<i>Carex echinata</i>	Star sedge	3	3			
<i>Molinia caerulea</i>	Purple moor grass	2				
<i>Holcus lanatus</i>	Yorkshire fog	2				
<i>Eriophorum angustifolium</i>	Common cotton grass	4				
<i>Juncus bulbosus</i>	Bulbous rush	3	3			
<i>Juncus acutiflorus</i>	Sharp flowered rush	4				
Forbs, Pteridophytes, Trees & Shrubs						
<i>Drosera rotundifolia</i>	Round leaved sundew		4			
<i>Viola palustris</i>	Marsh violet	2				
<i>Narthecium ossifragum</i>	Bog asphodel		3			
<i>Menyanthes trifoliata</i>	Bogbean		4			
<i>Lotus pedunculatus</i>	Greater birds foot trefoil	2				
<i>Cirsium palustre</i>	Marsh thistle					
<i>Succisa pratensis</i>	Devils bit scabious	4	1			
<i>Trocdaris verticillata</i>	Whorled caraway	2				
<i>Ranunculus flammula</i>	Lesser spearwort	2				
<i>Epilobium palustre</i>	Marsh willowherb	2				
<i>Cerastium fontanum</i>	Tormentil					

Totals			
Frequency	DAFOR	Frequency Numeral	Range
2		II	0-7
2		II	0-3
1		I	0-2
1		I	0-2
1		I	0-4
2		II	0-3
1		I	0-4
1		I	0-4
1		I	0-2
1		I	0-3
1		I	0-4
1		I	0-2
			0-0
2		II	0-4
1		I	0-2
1		I	0-2
1		I	0-2
			0-0

<i>Equisetum fluviatile</i>	Water horsetail	2					1	I	0-2
Bryophytes & Lichens									
<i>Sphagnum palustre</i>		4					1	I	0-4
<i>Sphagnum fallax agg</i>		4					1	I	0-4
<i>Hylocomium splendens</i>		2					1	I	0-2
<i>Aulacomnium palustre</i>		4	4				2	II	0-4
<i>Sphagnum papillosum</i>		3	6				2	II	0-6
<i>Sphagnum capillifolium</i>			4				1	I	0-4
<i>Polytrichum strictum</i>			3				1	I	0-3
<i>Sphagnum auriculatum</i>			4				1	I	0-4
Bare Ground & Leaf Litter									0-0
<p>Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.</p> <p>Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)</p> <p>DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.</p>									

A.1.27. M4 / M18 Mosaic

NVC Survey Form										
Site	A83		Location/Plot							
Weather Conditions			Surveyors		Date					
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints										
M4 M18 Mosaic										
Quadrat Reference	1		2		3		4		5	
Quadrat Size	2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m	
Co-ordinates	Object ID 172									
Aspect										
Slope (°)										
Vegetation mean height (cm) and cover (%)	5	93								
Species List (Latin Name)/Common Name		Domin value								
Grasses, Sedges & Rushes										
<i>Carex rostrata</i>	Bottle sedge	4								
<i>Carex panicea</i>	Carnation sedge	2								
<i>Carex echinata</i>	Star sedge	2								
<i>Molinia caerulea</i>	Purple moor grass	2								
Forbs, Pteridophytes, Trees & Shrubs										
<i>Drosera rotundifolia</i>	Round leaved sundew	3								
<i>Viola palustris</i>	Marsh violet	1								
<i>Narthecium ossifragum</i>	Bog asphodel	4								
<i>Menyanthes trifoliata</i>	Bogbean	3								
Bryophytes & Lichens										
<i>Sphagnum papillosum</i>		8								
<i>Sphagnum fallax agg</i>		4								
<i>Sphagnum auriculatum</i>		3								
Bare Ground & Leaf Litter										
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.										
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)										
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.										

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1			0-4
1			0-2
1			0-2
1			0-2
1			0-3
1			0-1
1			0-4
1			0-3
1			0-8
1			0-4
1			0-3
			0-0

A.1.28. H21 / M25 Mosaic

NVC Survey Form										
Site	A83		Location/Plot							
Weather Conditions			Surveyors			Date				
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints										
H21 M25 Mosaic										
Quadrat Reference	1		2		3		4		5	
Quadrat Size	2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m	
Co-ordinates	Object ID 100		Object ID 100 sup quadrat		Object ID 101					
Aspect	North east		North east		north east					
Slope (°)	40		40		40					
Vegetation mean height (cm) and cover (%)	20	100	20	100	20	100				
Species List (Latin Name)/Common Name		100								
Grasses, Sedges & Rushes										
<i>Molinia caerulea</i>	Purple moor grass	5	4	5						
<i>Deschampsia flexuosa</i>	Wavy hair grass	2		2						
<i>Juncus acutiflorus</i>	Sharp flowered rush		1							
Forbs, Pteridophytes, Trees & Shrubs										
<i>Calluna vulgaris</i>	Heather	3	7	3						
<i>Vaccinium myrtillus</i>	Bilberry	6	3	6						
<i>Potentilla erecta</i>	Tormentil	2	3	2						
<i>Sorbus aucuparia</i>	Rowan	1								
<i>Narthecium ossifragum</i>	Bog asphodel		5	1						
Bryophytes & Lichens										
<i>Hylocomium splendens</i>		7	4	7						
<i>Sphagnum capillifolium</i>				4						
<i>Racomitrium sp</i>		4		4						
<i>Sphagnum papillosum</i>			1							
Bare Ground & Leaf Litter										
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.										
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)										
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.										

Totals			
Frequency	DAFOR	Frequency Numeral	Range
3		III	0-5
2		II	0-2
1		I	0-1
3		III	3-7
3		III	0-6
3		III	0-3
1		I	0-1
2		II	0-5
3		III	0-7
1		I	0-4
2		II	0-4
1		I	0-1
			0-0

A.1.29. H14

NVC Survey Form							
Site	A83		Location/Plot				
Weather Conditions			Surveyors			Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints							
H14							
Quadrat Reference	1	2	3	4	5		
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m		
Co-ordinates	H14 - 1 Object ID 61	H14 - 1 Object ID 85	H14 - 1 Object ID 109		H14 (with M10 in slopes) Object ID 93		
Aspect	west	south	west		south		
Slope (°)	20	20	30		10		
Vegetation mean height (cm) and cover (%)	7 99	4 98	5 95		7 95		
Species List (Latin Name)/Common Name		Domin value					
Grasses, Sedges & Rushes							
<i>Juncus squarrosus</i>	Heath rush	2					
<i>Luzula multiflora</i>	Heath wood rush	2					
<i>Nardus stricta</i>	Mat grass	3	3	4	3		
<i>Carex pilulifera</i>	Pill sedge	3					
<i>Agrostis capillaris</i>	Common bent	1	3		2		
<i>Molinia caerulea</i>	Purple moor grass	2					
<i>Carex binervis</i>	Green ribbed sedge		3				
<i>Danthonia decumbens</i>	Heath grass			3			
<i>Trichophorum germanicum</i>	Deer grass			1	4		
<i>Juncus acutiflorus</i>	Sharp flowered rush				2		
Forbs, Pteridophytes, Trees & Shrubs							
<i>Calluna vulgaris</i>	Heather	6	5	6	5		
<i>Pedicularis sylvatica</i>	Common lousewort	3	4		3		
<i>Vaccinium myrtillus</i>	Bilberry	3					
<i>Potentilla erecta</i>	Tormentil	3	3	3	4		
<i>Galium saxatile</i>	Heath bedstraw	2		2			
<i>Trocdaris verticillata</i>	Whorled caraway		2				

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-2
1		I	0-2
4		IV	0-4
1		I	0-3
3		III	0-3
1		I	0-2
1		I	0-3
1		I	0-3
2		II	0-4
1		I	0-2
4		IV	0-6
3		III	0-4
1		I	0-3
4		IV	0-4
2		II	0-2
1		I	0-2

<i>Polygala serpyllifolia</i>	Heath milkwort		3				1	I	0-3
<i>Succisa pratensis</i>	Devils bit scabious		1	4		3		III	0-4
<i>Dactylorhiza maculata</i>	Heath spotted orchid		2					I	0-2
<i>Blechnum spicant</i>	Hard fern				1			I	0-1
<i>Narthecium ossifragum</i>	Bog asphodel				3			I	0-3
<i>Hypochaeris radicata</i>	Common cats ear				1			I	0-1
Bryophytes & Lichens									
<i>Racomitrium sp</i>		7				4		II	0-7
<i>Hylocomium splendens</i>		3						I	0-3
<i>Rhytidiadelphus squarrosus</i>		4						I	0-4
<i>Polytrichum juniperinum</i>			4					I	0-4
<i>Hypnum jutlandicum</i>			3	4				II	0-4
<i>Cladonia portentosa</i>			3					I	0-3
<i>Racomitrium lanuginosum</i>				6				I	0-6
<i>Sphagnum tenellum</i>				1				I	0-1
<i>Sphagnum compactum</i>				1				I	0-1
<i>Pleurozium sp</i>						3		I	0-3
<i>Cladonia sp</i>						3		I	0-3
<i>Thuidium tamariscinum</i>									0-0
Bare Ground & Leaf Litter									
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.									
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)									
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.									

A.1.30. H12

NVC Survey Form									
Site	A83		Location/Plot					Date	
Weather Conditions			Surveyors						
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints									
H12									
Quadrat Reference	1	2	3	4	5				
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m				
Co-ordinates	Object ID 30	Object ID 52							
Aspect	south	south							
Slope (°)	10	60							
Vegetation mean height (cm) and cover (%)	15	100	25						
Species List (Latin Name)/Common Name		Domin value							
Grasses, Sedges & Rushes									
<i>Deschampsia flexuosa</i>	Wavyhair grass	4	1						
<i>Molinia caerulea</i>	Purple moor grass	4							
<i>Agrostis capillaris</i>	Common bent	3							
<i>Trichophorum germanicum</i>	Deer grass		1						
Forbs, Pteridophytes, Trees & Shrubs									
<i>Vaccinium myrtillus</i>	Bilberry	5	3						
<i>Calluna vulgaris</i>	Heather	5	8						
<i>Gallium saxatile</i>	Heath bedstraw	3							
<i>Dryopteris sp</i>	Wood fern sp	1							
<i>Erica cinerea</i>	Bell heather		3						
Bryophytes & Lichens									
<i>Hylocomium splendens</i>		6	4						
<i>Thuidium tamarisinum</i>		4							
<i>Rhitidiadelphus loreus</i>		3							
<i>Hypnum jutlandicum</i>		3							
Bare Ground & Leaf Litter									
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.									
Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)									
DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.									

Totals			
Frequency	DAFOR	Frequency Numeral	Range
2		II	0-4
1		I	0-4
1		I	0-3
1		I	0-1
2		II	0-5
2		II	0-8
1		I	0-3
1		I	0-1
1		I	0-3
2		II	0-6
1		I	0-4
1		I	0-3
1		I	0-3
			0-0

A.1.31. H12 H21 Mosaic

NVC Survey Form						
Site	A83		Location/Plot			
Weather Conditions			Surveyors		Date	
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints						
H12 H21 Mosaic						
Quadrat Reference	1	2	3	4	5	
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	
	82 - Object ID 232	83 - Object ID 232				
Aspect						
Slope (°)						
Vegetation mean height (cm) and cover (%)	10 - 15	100				
Species List (Latin Name)/Common Name		Domin value				
Grasses, Sedges & Rushes						
<i>Molinia caerulea</i>	Purple moor grass	3	4			
<i>Deschampsia flexuosa</i>	Wavy hair grass	4	6			
Forbs, Pteridophytes, Trees & Shrubs						
<i>Pinus sylvestris</i>	Scots pine	3				
<i>Vaccinium myrtillus</i>	Bilberry	6	5			
<i>Calluna vulgaris</i>	Heather	2	3			
<i>Galium saxatile</i>	Heath bedstraw	2	3			
<i>Blechnum spicant</i>	Hard fern	1				
<i>Betula sp</i>	Birch sp		1			
<i>Populus tremula</i>	Aspen		1			
Bryophytes & Lichens						
<i>Spahgnum rubellum</i>		5	4			
<i>Polytrichum commune</i>		2				
<i>Hypnum jutlandicum</i>			3			
<i>Rhitidiadelphus loreus</i>			2			
Bare Ground & Leaf Litter						
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length. Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%) DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.						

Totals			
Frequency	DAFOR	Frequency Numeral	Range
2		II	0-4
2		II	0-6
1		I	0-3
2		II	0-6
2		II	0-3
2		II	0-3
1		I	0-1
1		I	0-1
1		I	0-1
2		II	0-5
1		I	0-2
1		I	0-3
1		I	0-2
			0-0

A.1.32. H12 / H14 / M25 / U4 / U20 Mosaic

NVC Survey Form								
Site	A83		Location/Plot					
Weather Conditions			Surveyors			Date		
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints								
H12 H14 M25 U4 U20 Mosaic								
Quadrat Reference	1	2	3	4	5			
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m			
Co-ordinates	Object ID 72							
Aspect	south							
Slope (°)	50							
Vegetation mean height (cm) and cover (%)	15	99						
Species List (Latin Name)/Common Name		Domin value						
Grasses, Sedges & Rushes								
<i>Molinia caerulea</i>	Purple moor grass	3						
<i>Nardus stricta</i>	Matt grass	3						
<i>Festuca ovina</i>	Sheeps fescue	2						
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	4						
<i>Deschampsia flexuosa</i>	Wavy hair grass	2						
<i>Juncus effusus</i>	Soft rush	2						
Forbs, Pteridophytes, Trees & Shrubs								
<i>Pteridium aquilinum</i>	Bracken	3						
<i>Galium saxatile</i>	Heath bedstraw	4						
<i>Cerastium fontanum</i>	Tormentil	3						
<i>Calluna vulgaris</i>	Heather	2						
<i>Oreopteris limbosperma</i>	Lemon scented fern	2						
<i>Hypericum pulchrum</i>	Slender St Johns wort	1						
<i>Rumex acetosa</i>	Common sorrel	1						
Bryophytes & Lichens								
<i>Rhytidiadelphus squarrosus</i>		4						
<i>Hylocomium splendens</i>		4						
<i>Racomitrium sp</i>		1						
<i>Pleurozium sp</i>		3						
<i>Eurhynchium striatum</i>		1						
Bare Ground & Leaf Litter								

Totals			
Frequency	DAFOR	Frequency Numeral	Range
1		I	0-3
1		I	0-3
1		I	0-2
1		I	0-4
1		I	0-2
1		I	0-2
1		I	3-3
1		I	0-4
1		I	0-3
1		I	0-2
1		I	0-2
1		I	0-1
1		I	0-1
1		I	0-4
1		I	0-4
1		I	0-1
1		I	0-3
1		I	0-1
			0-0

Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.

Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)

DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.

A.1.33. H9

NVC Survey Form					
Site	A83		Location/Plot		
Weather Conditions			Surveyors		Date
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints					
H9					
Quadrat Reference	1	2	3	4	5
Quadrat Size	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m	2 x 2 m
Co-ordinates	Object ID 38	Object ID 220			
Aspect	south				
Slope (°)	25				
Vegetation mean height (cm) and cover (%)	20	100	25	90	
Species List (Latin Name)/Common Name		Domin value			
Grasses, Sedges & Rushes					
<i>Deschampsia flexuosa</i>	Wavy hair grass	5	5		
<i>Luzula multiflora</i>	Heath wood rush	2	1		
<i>Carex pilulifera</i>	Pill sedge	3			
<i>Festuca ovina</i>	Sheeps fescue		5		
<i>Molinia caerulea</i>	Purple moor grass		4		
Forbs, Pteridophytes, Trees & Shrubs					
<i>Calluna vulgaris</i>	Heather	5	7		
<i>Erica tetralix</i>	Cross leaved heath	4			
<i>Picea sitchensis</i>	Sitka spruce	3	1		
<i>Vaccinium myrtillus</i>	Bilberry		5		
<i>Sorbus aucuparia</i>	Rowan		3		
<i>Lotus corniculatus</i>	Common birds foot trefoil		1		
<i>Potentilla erecta</i>	Tormentil		2		
<i>Rhododendron ponticum</i>	Rhododendron		1		
Bryophytes & Lichens					
<i>Polytrichum sp</i>		4			
<i>Campylopus introflexus</i>		3			
<i>Campylopus sp</i>		4			

Totals			
Frequency	DAFOR	Frequency Numeral	Range
2		II	0-5
2		II	0-2
1		I	0-3
1		I	0-5
1		I	0-4
2		II	0-7
1		I	0-4
2		II	0-3
1		I	0-5
1		I	0-3
1		I	0-1
1		I	0-2
1		I	0-1
1		I	0-4
1		I	0-3
1		I	0-4

<i>Hypnum jutlandicum</i>		4					1		I	0-4
<i>Hylocomium splendens</i>			7				1		I	0-7
<i>Thuidium tamariscinum</i>			3				1		I	0-3
Bare Ground & Leaf Litter										0-0

Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.

Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)

DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.

A.1.34. H9 / H10 / H12 / H14 / H21 Mosaic

NVC Survey Form										
Site	A83			Location/Plot						
Weather Conditions				Surveyors				Date		
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints										
H9 H10 H12 H14 H21 Mosaic										
Quadrat Reference	1		2		3		4		5	
Quadrat Size	2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m	
Co-ordinates	Object ID 45 a		Object ID 45 b							
Aspect			North							
Slope (°)			10							
Vegetation mean height (cm) and cover (%)	25	95	15	98						
Species List (Latin Name)/Common Name			Domin value							
Grasses, Sedges & Rushes										
<i>Deschampsia flexuosa</i>	Wavy hair grass		3	6						
<i>Juncus effusus</i>	Soft rush		1							
<i>Molinia caerulea</i>	Purple moor grass		3							
<i>Eriophorum angustifolium</i>	Common cotton grass			2						
<i>Carex pilulifera</i>	Pill sedge			1						
Forbs, Pteridophytes, Trees & Shrubs										
<i>Calluna vulgaris</i>	Heather		7	6						
<i>Erica cinerea</i>	Bell heather		6							
<i>Rubus fruticosus</i>	Bramble		1							
<i>Ilex aquifolium</i>	Holly		1							
<i>Crataegus monogyna</i>	Hawthorn		1							
<i>Chamaenerion angustifolium</i>	Rosebay willowherb		1							
<i>Betula pubescens</i>	Downy birch			3						
<i>Sorbus aucuparia</i>	Rowan			1						
<i>Picea sitchensis</i>	Sitka spruce			1						
Bryophytes & Lichens										
<i>Polytrichum juniperinum</i>			4	4						
<i>Sphagnum sp</i>			3							
<i>Thuidium tamariscinum</i>			2							

Totals			
Frequency	DAFOR	Frequency Numeral	Range
2		II	0-6
1		I	0-1
1		I	0-3
1		I	0-2
1		I	0-1
2		II	0-7
1		I	0-6
1		I	0-1
1		I	0-1
1		I	0-1
1		I	0-1
1		I	0-3
1		I	0-1
1		I	0-1
2		II	0-4
1		I	0-3
1		I	0-2

<i>Rhitiadelphus loreus</i>		3	2				2		II	0-3
<i>Hypnum jutlandicum</i>			5				1		I	0-5
<i>Camylopus sp</i>			2				1		I	0-2
<i>Mnium hornum</i>			2				1		I	0-2
Bare Ground & Leaf Litter										0-0

Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length.

Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%)

DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.

A.1.35. CG10

NVC Survey Form											
Site	A83		Location/Plot								
Weather Conditions			Surveyors			Date					
Site and vegetation description (include notes on management/habitat condition) and any access or seasonality constraints											
CG10											
Quadrat Reference	1		2		3		4		5		
Quadrat Size	2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		2 x 2 m		
Co-ordinates	CG10 - 1 Object ID 57		CG10 - 1 Object ID 60								
Aspect	South		South								
Slope (°)	50		25								
Vegetation mean height (cm) and cover (%)	7	99	15	98							
Species List (Latin Name)/Common Name			Domin value								
Grasses, Sedges & Rushes											
<i>Danthonia decumbens</i>	Heath grass	3	3								
<i>Festuca ovina</i>	Sheeps fescue	4	4								
<i>Nardus stricta</i>	Mat grass	1	2								
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	3	3								
<i>Agrostis capillaris</i>	Common bent	3	3								
<i>Molinia caerulea</i>	Purple moor grass	1									
<i>Festuca rubra</i>	Red fescue	2									
<i>Carex pulicaris</i>	Flea sedge	4	3								
<i>Carex panicea</i>	Carnation sedge	2	3								
<i>Carex pilulifera</i>	Pill sedge	1	2								
<i>Juncus acutiflorus</i>	Sharp flowered rush	1	1								
<i>Luzula campestris</i>	Field wood rush	3	3								
<i>Juncus squarrosus</i>	Heath rush	1									
<i>Carex demissa</i>	Common yellow sedge	1									
<i>Carex caryophylla</i>	Spring sedge										
Forbs, Pteridophytes, Trees & Shrubs											
<i>Succisa pratensis</i>	Devil's bit scabious	4	4								
<i>Cerastium fontanum</i>	Common mouse ear	4									
<i>Calluna vulgaris</i>	Heather	2	3								
<i>Potentilla erecta</i>	Tormentil	3	3								

Totals			
Frequency	DAFOR	Frequency Numeral	Range
2		II	0-3
2		II	0-4
2		II	0-2
2		II	0-3
2		II	0-3
1		I	0-1
1		I	0-2
2		II	0-4
2		II	0-3
2		II	0-2
2		II	0-1
2		II	0-3
1		I	0-1
1		I	0-1
			0-0
2		II	0-4
1		I	0-4
2		II	0-3
2		II	0-3

<i>Trocdaris verticillata</i>	Whorled caraway	2	1				2	II	0-2
<i>Polygala serpyllifolia</i>	Heath milkwort	1	3				2	II	0-3
<i>Plantago lanceolata</i>	Ribwort plantain	3	3				2	II	0-3
<i>Lotus corniculatus</i>	Common birds foot trefoil	4	4				2	II	0-4
<i>Thymus drucei</i>	Wild thyme	3	3				2	II	0-3
<i>Viola riviniana</i>	Common dog violet	2					1	I	0-2
<i>Pinguicula vulgaris</i>	Common butterwort	3					1	I	0-3
<i>Hypericum pulchrum</i>	Slender St John's wort	2	2				2	II	0-2
<i>Cirsium palustre</i>	Marsh thistle	1					1	I	0-1
<i>Prunella vulgaris</i>	Selfheal	1	1				2	II	0-1
<i>Campanula rotundifolia</i>	Harebell	2	1				2	II	0-2
<i>Ranunculus acris</i>	Meadow buttercup		2				1	I	0-2
<i>Alchemilla mollis</i>	Garden lady's-mantle		1				1	I	0-1
<i>Erica cinerea</i>	Bell heather		1				1	I	0-1
<i>Pedicularis sylvatica</i>	Common lousewort		3				1	I	0-3
<i>Pilosella officinalis</i>	Common mouse ear hawkbit		3				1	I	0-3
<i>Galium saxatile</i>	Heath bedstraw		1				1	I	0-1
Bryophytes & Lichens									
<i>Rhytidiadelphus squarrosus</i>		3	3				2	II	0-3
<i>Hylocomium splendens</i>		4	2				2	II	0-4
<i>Bartramia sp</i>		4	2				2	II	0-4
<i>Ctenidium molluscum</i>		2					1	I	0-2
<i>Cladonia sp</i>		1					1	I	0-1
<i>Eurhynchium striatum</i>		1					1	I	0-1
<i>Polytrichum sp</i>		1					1	I	0-1
<i>Polytrichum commune</i>			3				1	I	0-3
<i>Eurhynchium striatum</i>			2				1	I	0-2
<i>Racomitrium sp</i>			2				1	I	0-2
Bare Ground & Leaf Litter									
0-0									
Short herbaceous 2x2m; Tall and more open herb communities and woodland field layers 4x4m; species poor, very tall herbaceous or dense scrub 10x10m; sparse scrub, woodland canopy & understorey 50mx50m; streams and ditches 10m length of watercourse; hedgerows, shrub and tree lines 30m length. Domin Score: 1<4% (few individuals), 2 <4% (several individuals), 3 <4% (many individuals), 4 (4-10%), 5 (11-25%), 6 (26-33%), 7 (34-50%), 8 (51-75%), 9 (76-90%), 10 (91-100%) DAFOR: Dominant, Abundant, Frequent, Occasional, Rare.									

Annex 11.4.B. Beinn an Lochain SSSI Citation

CITATION

**BEINN AN LOCHAIN
SITE OF SPECIAL SCIENTIFIC INTEREST**
Argyll and Bute

Site code: 163

PLANNING AUTHORITY: Argyll and Bute Council
Loch Lomond and The Trossachs National Park Authority

NATIONAL GRID REFERENCE: NN 204080

OS 1:50,000 SHEET NO: Landranger Series 56
1:25,000 SHEET NO: Explorer Series 364

AREA: 1369.23 hectares

NOTIFIED NATURAL FEATURES

Biological: Upland habitats : Siliceous scree (includes boulder fields)
: Tall herb ledge
: Upland assemblage

DESCRIPTION

Beinn an Lochain Site of Special Scientific Interest (SSSI) is located near the head of Loch Fyne, approximately 7 km north-west of the village of Arrochar. The site supports an extensive boulder field, which represents one of the best examples of this habitat type in the district. The rock type and geographical position of the SSSI in the southern Highlands also results in a rich variety of vegetation types.

The range of vegetation types this site supports is in part a reflection of the area's varied topography. Of particular interest is the boulder field to the north of Beinn an Lochain summit, which has enormous boulders amongst which grow a great diversity of Atlantic bryophytes and an abundance of ferns including *Dryopteris borreri*, *D. filix-mas* and *Athyrium filix-femina*. The boulder field within Beinn an Lochain SSSI represents one of the best examples of this habitat type in the Cowal area.

The extent of little-grazed vegetation on the massif is exceptional in this part of Scotland and has allowed the extensive development of a number of important and distinctive communities. Particularly notable are the tall herb and fern communities, which are not only confined to inaccessible ledges but occur widely across the site. These include carpets of acidophilous great wood-rush *Luzula sylvatica*, blaeberry *Vaccinium myrtillus* grassland in the sub-montane zone and a luxuriant, calcicolous cliff ledge assemblage comprising flowering plants such as great wood-rush *Luzula sylvatica*, water avens *Geum rivale*, wood crane's-bill *Geranium sylvaticum*, alpine saw-wort *Saussurea alpina*, smooth lady's-mantle *Alchemilla glabra* and angelica *Angelica sylvestris*, as well as ferns such as lemon-scented fern *Oreopteris limbosperma* and hard fern *Blechnum spicant*.

Beinn an Lochain provides one of the best representations of upland habitats in Scotland and is therefore notified as a SSSI for its upland habitat assemblage. In addition to the boulder scree and tall herb communities described above, the components of this assemblage are acid grassland, alpine summit communities, blanket bog, calcareous

grassland, mire grassland and rush pasture, subalpine dry dwarf-shrub heath, spring-head, rill and flush.

The alpine summit communities occur in the montane zone with good examples of stiff sedge *Carex bigelowii*, *Racomitrium lanuginosum* moss heath, and the arctic-alpine species three-leaved rush *Juncus tritidus* and spiked wood-rush *Luzula spicata* near their southern British geographical limit.

In the sub-montane zone the site supports a wide range of grassland, heath, fen and fen meadow communities, reflecting varied topography and soil status. Particularly abundant are fen meadows characterised by sharp-flowered rush *Juncus acutiflorus* or purple moor-grass *Molinia caerulea*, and sharp-flowered rush-*Sphagnum recurvum* mire. Acidic bent – fescue *Agrostis* – *Festuca* and heath rush *Juncus squarrosus* grasslands cover large areas of the drier slopes. Heather *Calluna vulgaris*-rich heath is represented but is not extensive. The blaeberry – wavy hair-grass *Deschampsia flexuosa* community forms the major heath component and extends into the montane zone, where the cowberry *Vaccinium vitis-idaea* becomes more frequent.

On more gentle slopes and lower altitude plateaux ombrotrophic mires have developed. Northern bilberry *Vaccinium uliginosum* becomes a feature of the small areas of bog vegetation occurring at higher altitudes. In contrast, flushed or weathered ground can support rich calcicolous vegetation. Stony, yellow sedge *Carex demissa* – yellow mountain saxifrage *Saxifraga aizoides* mires occur below the main crags, while the calcicolous bent fescue – wild thyme *Thymus praecox* or alpine lady's mantle *Alchemilla alpina* grasslands form local species rich areas.

NOTIFICATION HISTORY

First notified under the 1981 Act: 09 November 1995
Notification reviewed under the 2004 Act: 24 March 2011

REMARKS

Measured area of site corrected (from 1369 ha)