Appendix 10.2

Groundwater Dependent Terrestrial Ecosystems

Contents

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1 Introduction

1.1.1 In support of **Chapter 10** (**Volume 1**) of the Design Manual for Roads and Bridges (DMRB) Stage 3 Environmental Impact Assessment (EIA) report; this technical appendix presents the baseline details related to Groundwater Dependent Terrestrial Ecosystems (GWDTE) identified in the study area for Project 9 – Crubenmore to Kincraig of the A9 Dualling Programme (hereafter referred to as the Proposed Scheme). GWDTE are types of wetland that are protected under the Water Framework Directive (WFD, 2000/60/EC).

1.1.2 The purpose of the appendix is to identify 'potential' GWDTE based on National Vegetation Classification (NVC) habitat survey findings, further assess their 'likely' groundwater dependence based on their topographical, geological and hyrdo-ecological context, and outline potential impacts which may occur as a result of construction and operation of the Proposed Scheme.

1.1.3 The information presented supports the assessment of potential impacts in **Chapter 10** (**Volume 1**) and has been prepared based on analysis of NVC habitat survey (MacArthur Green, 2015) findings presented in **Appendix 12.3** (**Volume 2**). These aspects of the DMRB Stage 3 EIA should therefore be referred to as necessary.

2 Approach and Methods

2.1.1 The assessment related to GWDTE covers a study area extending to at least 100m from the permanent and temporary works boundaries of the Proposed Scheme, which was extended further where required. In order to identify these, analysis of NVC Survey (MacArthur Green, 2015; CFJV, 2017) findings was initially undertaken in accordance with Scottish Environment Protection Agency (SEPA) *'Land Use Planning System Guidance Note 31 (LUPS-GU31) Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and GWDTE (Version 3)'* (SEPA, 2017).

2.1.2 LUPS-GU31 states that assessment of GWDTE is required where these are situated within 100m of excavations less than 1.00m in depth, or within 250m of excavations greater than 1.00m in depth. Based on this, all GWDTE within 100m of the permanent and temporary works boundaries of the Proposed Scheme and those within at least 250m of excavations identified in **Table 10-13** in **Chapter 10** (**Volume 1**) have been considered. Some areas were scoped out due to the presence of likely hydrological barriers such as the River Truim, River Spey and Highland Mainline railway (HML). In these instances, it was considered unlikely that potential groundwater effects would impact these, combined with distance and intervening topography.

2.1.3 The likely groundwater dependence for those remaining GWDTE areas has been assessed through consideration of possible water supply mechanisms based on site observations, the local topography, underlying geology and hydrogeology, and potential for surface water contributions to the habitats. Potential impacts on each area are then considered related to direct disturbance or loss within the Proposed Scheme footprint, permanent works boundaries and wider land made available, estimated zones of dewatering influence from excavations likely to intercept groundwater using the Sichardt formula (Powers *et al.*, 2007; CIRIA, 2016) and other works up or down-gradient.

2.1.4 The association of the individual habitat areas or vegetations, their proximity to or presence within designated sites of importance for nature conservation are acknowledged throughout the assessment as relevant, and the sensitivity of each area is based on the criteria in **Table 10-4** within **Chapter 10** (**Volume 1**) with regards whether they have a likely high, moderate or low

dependence on groundwater. Additional consideration of the areas and other habitats as qualifying or supporting interest features of the designations is undertaken as part of the ecological assessment in **Chapter 12** (**Volume 1**) and associated appendices in **Volume 2**.

3 Baseline Conditions

Geology

3.1.1 As shown in **Drawing 10.1** (**Volume 3**), published BGS mapping indicates the superficial deposits within the study area to variably include made ground, peat, alluvium, alluvial fan deposits, river terrace deposits, head, glaciofluvial deposits, till, hummocky glacial and lacustrine deposits.

3.1.2 The solid geology throughout the majority of the study area comprises Precambrian Psammite of the Loch Laggan Psammite Formation; recorded as micaceous and feldspathic psammite with thin semi-pelite beds and possible calc-silicate rock lenses and bands. The regional limit of pegmatitic rock veins runs parallel with much of the existing A9 carriageway, crossing it at approximate chainage (ch.) 43,750, ch. 51,000 and ch. 52,600. As shown in **Drawing 10.2** (**Volume 3**), BGS mapping also indicates the Gaick Psammite and Torr Na Truim Semipelite Formations between 50m and 100m to the north east and south west of the existing A9 in the southern extents of the study area. These strata comprise fine-grained quartzose with some biotite laminae and semipelite composed of muscovite, biotite, quartz and feldspar schistose and locally gneissose.

3.1.3 The folded metasedimentary units in the southern extents of the study area, north of Crubenmore Lodge, appear to dip in a predominantly south east direction at between 20° to 34°. Further north towards Kingussie, there is a dominant dip towards the east at angles between approximately 6° and 18°. Regionally, the Ericht-Laiden Fault runs approximately parallel to the west of the existing A9 carriageway in a north east–south west orientation. Although this does not appear to cross cut the existing A9, a smaller north–south trending fault does at approximate ch. 40,000 and ch. 42,250, with a number of smaller faults also present in the same area.

Soils

3.1.1 As illustrated in **Drawings 10.4** and **10.5** (**Volume 3**), the majority of the study area is underlain by humus-iron podzols, typically with some peat, peaty gleys, humic gleys, peaty podzols and peaty gleyed podzols. Mineral alluvial soils with peaty alluvial soils are predominant in areas underlying and adjacent to the River Truim, River Spey and Insh Marshes. The soil types are derived from metamorphic rock, fluvioglacial sands and gravels, recent riverine alluvium and lacustrine alluvial deposits, and in the case of peats, accumulations of organic material.

3.1.2 BGS mapping shown in **Drawing 10.1** (**Volume 3**) also identifies scattered areas of peat across the study area. The majority of these are located south and east of the existing A9 carriageway, starting at ch. 40,000 and continuing to ch. 44,000, along with two smaller areas to the north near Raliabeag. The remaining areas are located north and west of Kingussie, between ch. 50,200 and ch. 56,645, with an additional large area directly south of the existing A9 between ch. 51,600 and ch. 52,200.

3.1.3 Peaty soils and topsoil (less than 0.50m thickness) have been encountered in the study area, as shown in **Drawings 10.11** to **10.22** (**Volume 3**). These are predominant in areas of dry or wet heath, mosaics of these and grassland transitions. Discontinuous and localised pockets of shallow peat (between 0.50m and 1.00m thickness) are present in similar areas, with deep peat (greater than 1.00m thickness) occurring in areas of wet heath, blanket bog, mosaics of these, other mires, fens, marshes and swamp. Peaty soil and peat depths across the Proposed Scheme ranged from 0.00 to 4.85m, while available ground investigation information has also identified peat

strata, between 0.10 and 3.30m thickness, buried beneath granular horizons of made ground and/ or sands and gravels at several locations.

3.1.4 The basic peat characteristics are considered in **Appendix 10.1** (**Volume 2**). This identifies the majority of areas to be affected by artificial drainage channels of varying continuity and length; associated with existing or recent infrastructure and areas utilised for agricultural purposes. However, some areas of within and adjacent to the Proposed Scheme at Newtonmore, Nuide and across the Insh Marshes appear sufficiently wet and/ or contain bog pool communities indicative of good condition.

Hydrogeology

3.1.5 The SEPA River Basin Management Plan (RBMP) interactive map (SEPA, 2017) indicates the study area is primarily underlain by the Upper Spey bedrock and localised sand and gravel aquifers, with areas surrounding and underlying the River Spey comprising the Spey Valley (upstream of Kingussie) and Upper Spey Valley sand and gravel aquifers. The Truim and Tromie Valley sand and gravel aquifers are also present where the River Truim and River Tromie confluence with the River Spey in the south towards Crubenmore and in the north at the Insh Marshes, respectively. The WFD classification from 2008 for groundwater in both the superficial and bedrock deposits is 'good' with 'high' confidence for both quantity and quality, with no trend for pollutants and no current pressures.

3.1.6 As shown in **Drawing 10.7** (**Volume 3**), glacial (till and hummocky moundy glacial deposits) and lacustrine deposits in the south and north of the study area do not comprise significant aquifers. However, glaciofluvial deposits are indicated as high productivity, while alluvial and river terrace deposits are moderate to high productivity with intergranular flow. Bedrock throughout the study area is classified as very low or low in productivity, as shown in **Drawing 10.8** (**Volume 3**), with groundwater storage and flow likely to be limited to near surface weathered zones and fractures.

3.1.7 Groundwater flow in the superficial deposits is likely to follow surface topography towards local surface watercourses. However, flows may be locally complex and influenced by the presence of peat, shallow rock and man-made features associated with the existing A9 carriageway, Highland Mainline railway, tracks and structures. The hydrogeology of the Insh Marshes is also known to be varied and complex, with the existence of different 'compartments' that vary in hydrological regime, including water table and ditch water levels, as well as the direction and rate of groundwater flow (Royal Society for the Protection of Birds (RSPB) Scotland, 2007). A complex range of water supply mechanisms and interactions (groundwater recharge and discharge, groundwater flows to and from the River Spey or drainage ditches, surface water flow and recharge from the River Spey, precipitation, and surface water flows and run-off from upland areas) therefore influence the marshes, and previous studies of water table depths in relation to NVC vegetation types has shown that these depend on the depth of the water table (RSPB Scotland, 2007). Sand rising up the casing and blowing sands were also recorded at depth in the superficial deposits within the River Spey floodplain and Insh Marshes, appearing to be indicative of a sub-artesian groundwater regime within these.

3.1.8 The flow direction of bedrock groundwater is unconfirmed, but is likely to follow the direction of local surface watercourses and may be locally discontinuous due to fracturing and folding.

3.1.9 Particle size distribution testing and published literature values (Freeze and Cherry, 1979; Wheeler, 2009; Natural England, 2010) indicate that variable permeabilities for peat, superficial soils and bedrock in the study area can be expected. Seventeen variable head permeability tests were carried out during the Preliminary GI to provide permeability estimates across the Proposed

Scheme. The coefficients of permeability were reported to range between 3.5 x 10^{-7} and 7.7 x 10^{-5} metres per second (m/s).

Hydrology

3.1.10 A detailed hydrological catchment baseline survey for the study area based on field visits (CFJV, 2016 and 2017) and desk-based data assessment is presented in **Appendix 11.4** (**Volume 2**). This indicates that the study area drains to the River Spey. There are also several major and/ or minor watercourses present, and **Chapter 11** (**Volume 1**) identifies individual sub-catchments for each of these.

3.1.11 The principal surface watercourses in the study area are the River Truim and the River Spey. The River Truim flows northward to the west of the A9 carriageway in the south of the study area, towards its confluence with the River Spey approximately 750m to the west (ch. 41,400). The River Spey then descends northward to the west of the A9 from Newtonmore, crossing to the eastern side of the carriageway near Kingussie (ch. 50,200) and crossing Loch Insh on the outskirts of and through Kincraig to the north. Both the River Truim and River Spey form part of the River Spey SAC, which is designated for the protection of freshwater pearl mussel, sea lamprey, Atlantic salmon and otter. The River Spey also forms part of the River Spey – Insh Marshes Ramsar, SPA, SSSI and the Insh Marshes National Nature Reserve (NNR).

3.1.12 Other surface watercourses in the study area include the Burn of Inverton, Raitts Burn, Allt Eoghainn, Allt Cealgach and several additional watercourses tributaries, predominantly to the River Spey, which cross under the Proposed Scheme.

Groundwater Dependent Terrestrial Ecosystems

Identification

3.1.13 SEPA has classified several NVC communities as potentially dependent on groundwater (SEPA, 2014; 2017). Habitats containing these communities are to be considered potential GWDTE unless further information can be provided to demonstrate this is not the case. Many of the NVC communities on the list are common habitat types across Scotland, and some are otherwise of low ecological value.

3.1.14 Using the SEPA guidance (2014, 2017), **Table 1** shows which communities recorded within the study area may be considered potential GWDTE. Those with potential moderate dependence on groundwater in certain hydrogeological settings are shaded yellow and those with potential high dependence on groundwater in certain hydrogeological settings are shaded red.

Table 1: GWDTE NVC Communities and Sub-Communities Identified

NVC Community	NVC Community Name
Moderately Groundwater Dependent	
M15	*Trichophorum germanicum – Erica tetralix* wet heath
M25	*Molinia caerulea – Potentilla erecta* mire
M27	*Filipendula ulmaria – Angelica sylvestris* mire
MG9	*Holcus lanatus – Deschampsia cespitosa* grassland
MG10	*Holcus lanatus – Juncus effusus* rush pasture
MG11	*Festuca rubra – Agrostis stolonifera – Potentilla anserina* grassland
W3	*Salix pentandra – Carex rostrata* woodland
W5	*Alnus glutinosa – Carex paniculata* woodland

NVC Community	NVC Community Name
W6	*Alnus glutinosa – Urtica dioica* woodland
Highly Groundwater Dependent	
M5	*Carex rostrata – Sphagnum squarrosum* mire
M6	*Carex echinata – Sphagnum fallax/denticulatum* mire
M10	*Carex dioica - Pinguicula vulgaris* mire
M23	*Juncus effusus/acutiflorus – Galium palustre* rush pasture
CG10	*Festuca ovina – Agrostis capillaris – Thymus polytrichus* grassland
S11	*Carex vesicaria* swamp
W4	*Betula pubescens – Molinia caerulea* woodland
W7	*Alnus glutinosa – Fraxinus excelsior – Lysimachia nemoreum* woodland

3.1.15 The location and extent of recorded potential GWDTE in relation the Proposed Scheme are shown on **Drawings 10.23** to **10.34** (**Volume 2**). Within these, based on SEPA guidance (2014; 2017) and as per **Table 1**; polygons with a dominant cover of potential moderately groundwater dependent NVC communities or sub-communities are shaded yellow, and polygons with a dominant cover of potential highly groundwater dependent NVC communities or sub-communities are shaded red.

3.1.16 Where mosaics of GWDTE and non-GWDTE NVC communities or sub-communities are present and cannot be split, the polygons are assigned as partially groundwater dependent and shaded green; though the potential groundwater dependence of the sub-dominant communities based on SEPA guidance is considered in this assessment. The location of individual spring and flush features if identified from target notes or as part of polygon mosaics are also highlighted to recognise their presence.

3.1.17 Baseline details of the potential GWDTE communities and sub-communities identified across the Proposed Scheme are provided in **Appendix 12.3** (**Volume 2**) and summarised in **Table 2**. Additional detail of the vegetation communities and sub-communities in each individual area and their extents are provided in **Table 3**, together with comment on whether the area was scoped in or out of further assessment based on position and distance relative to the Proposed Scheme, or the presence of hydrological barriers and intervening topography.

Table 2: GWDTE NVC Community and Sub-Community Description and Distribution

NVC Community	NVC Community Name	NVC Community Description	NVC Community Distribution
M15	*Trichophorum germanicum – Erica tetralix* wet heath	This wet heath community is characteristic of moist and generally acid and oligotrophic peats and peaty mineral soils in the wetter western and northern parts of Britain. It is also associated with thinner or better drained areas of ombrogenous peat (Rodwell *et al.*, 1991; Elkington *et al.*, 2001).	M15 is relatively widespread throughout southern (ch. 40,000 to ch. 45,600) and central portions of the study area (ch. 51,800 to ch. 56,500). There is considerable variation, highlighted by the presence of all four sub-communities (M15b, M15a, M15d and M15c) which also appear to be present on varying depths of peaty soils and peat. In some cases, it occupies its natural landscape setting on gentler peaty slopes, but is also present on areas of deeper peat on flatter ground. In these areas, the vegetation may previously have been more referable to the local blanket mire communities, but the flora altered over time by grazing, burning and drainage, thereby facilitating the development of the M15 species assemblage.
M25	*Molinia caerulea – Potentilla erecta* mire	M25 mire is a community of moist, but usually well aerated, acid to neutral peats and peaty soils (Rodwell *et al.*, 1991). It generally occurs over gently-sloping ground, marking out seepage zones and flushed margins of topogenous mires, but also extends onto the fringes of ombrogenous mires (Rodwell *et al.*, 1991; Elkington *et al.*, 2001; Averis *et al.*, 2004). Treatments such as burning, grazing and drainage are likely to be largely responsible for the development of this community over ground that would naturally host some other kind of mire or wet heath vegetation (Rodwell *et al.*, 1991; Elkington *et al.*, 2001).	M25 is not extensive within the study area, although it is common in smaller patches as marginal areas and in mosaics with blanket bog, wet heaths and occasionally, swamps. Most areas of M25 are located near watercourses or on areas of peat with a depth of greater than 1.00m. There are also a few more continuous extents, usually associated with degraded blanket bog.
M27	*Filipendula ulmaria - Angelica sylvestris mire*	This community is typically found where moist, reasonably rich, circumneutral soils occur in situations protected from grazing. It can be found in both topogenous and soligenous mires and is especially typical of silted margins of slow-moving streams and soakways, the edges of flushes and damp hollows, and also of artificial habitats such as along dykes and roadside ditches and around ponds (Rodwell *et al.*, 1991; Elkington *et al.*, 2001).	A number of small stands of M27 were found in northern extents of the study area near the Insh Marshes and associated wetland, where the community can be seen grading into local swamp communities. It was also found in mosaic with M23, S10 and MG1 within the River Spey floodplain.
MG9	*Holcus lanatus – Deschampsia cespitosa* grassland	MG9 grassland is highly characteristic of permanently moist, gleyed and periodically inundated circumneutral soils across large areas of the British lowlands. It can exist on level to moderately sloping ground in areas of pasture or meadow, but can also be found along woodland rides and fen/ wetland margins. MG9 usually contains a coarse and tussocky sward dominated by D. cespitosa (Rodwell *et al.*, 1992; Cooper, 1997).	MG9 is present as frequent small stands in and around wetter parts of the study area, usually in mosaic with MG10 and M23. These are most frequent in the northern portions of the study area, but with small areas also present in the south near Glentruim House and Nuide Farm. Much of the MG9 communities were found located close to watercourses or within the confines of the floodplain.
MG10	*Holcus lanatus – Juncus effusus* rush pasture	MG10 is a form of rush-pasture characteristic of areas with strongly impeded drainage over a wide range of usually acid to neutral mineral soils on level to gently sloping ground (Rodwell *et al.*, 1992; Cooper, 1997). This community requires consistently high soil moisture (Rodwell *et al.*, 1992). Although found on various soil types including brown earth and calcareous earth throughout its range, this habitat can also have close associations with various types of mire vegetation and can form significant parts of rush-dominated mire mosaics in areas of suitably moist soils.	MG10 forms widespread small stands within central and northern portions of the study area, mostly within wetter hollows, flow lines and poorly drained parts of agricultural fields. It is also often present in mosaic with other wet grasslands (MG9), mires (M6, M23) and occasionally around the drying edges of swamps and fens.
MG11	*Festuca rubra – Agrostis stolonifera – Potentilla anserina* grassland	MG11 is a varied grassland type which includes generally species-poor, open and closed swards. It is characteristic of a wide variety of moist but free-draining circumneutral soils which are in many cases frequently inundated with water (Rodwell *et al.*, 1992; Cooper, 1997). It is predominantly a lowland vegetation type.	Only one very small area of MG11 was recorded within the study area; this is of the MG11a sub-community. This occupies a small damp patch of wet grassland within a wider area of improved MG7 grassland.
W3	*Salix pentandra - Carex rostrata woodland*	This is a community of peat soils kept moist by moderately base-rich and calcareous groundwater in open water transitions, most common in northern Britain (Rodwell *et al.*, 1991; Hall *et al.*, 2004). W3 is fairly constant in its composition and structure.	There are a number of stands of W3 within the study area, which are centred on wet marshy and fen areas in northern extents. The main area of occurrence and the largest stands are around the fringes of the Insh Marshes, particularly in a band of trees between the B9152 and the Highland Mainline railway, where extensive areas of open water also occur. There are some smaller stands in a marsh/ fen basin area between the existing A9 and the B9152, to the west of Lynchat. One further smaller stand is present within a wet hollow to the east of the Burn of Inverton, surrounded by drier W11 and W17 woodland.
W5	*Alnus glutinosa - Carex paniculata woodland*	W5 is a community of base-rich, moderately eutrophic, wet to waterlogged organic soils on topogenous or soligenous mires. It is especially associated with fen peats in open water transitions, flood-plain mires and basin mires where there is strong influence from base-rich groundwaters (Rodwell *et al.*, 1991; Hall *et al.*, 2004). It is primary woodland, developing naturally over certain types of fen.	A single relatively small patch of W5 woodland is present within the study area, adjacent to the Highland Mainline railway east of Lynchat and on the edge of the Insh Marshes. Here, the W5 community is found in transition to S9 and S10 swamp.
W6	*Alnus glutinosa - Urtica dioica woodland*	W6 is a poorly-defined community of eutrophic moist soils, especially where there has been substantial deposition of mineral matter, or on floodplain mires where enriched waters flood fen peat (Rodwell *et al.*, 1991; Hall *et al.*, 2004).	Nine stands of woodland within the study area were classed as W6. Many of these were not atypical stands, with some being of planted origin or containing planted elements. The stands were often a smaller component of a larger and partly drier woodland mosaic, with some also found away from floodplain and wetland areas (in settings not usually associated with W6). The most semi-natural looking patches were small thin riparian stands by the River Spey near Kingussie, to the west of the existing A9 carriageway. One small patch was also located on the west side of the A9 to the north near Dunachtonmore Farm.
M5	*Carex rostrata – Sphagnum squarrosum* mire	M5 mire is typically found as floating rafts or on soft, spongy peats in topogenous mires and in soligenous areas with mildly acid, only moderately calcareous and more nutrient-poor waters. It is characteristically found in zonations and mosaics. The community has a widespread but fairly local distribution in northern and western parts of Britain (Rodwell *et al.*, 1991; Elkington *et al.*, 2001).	Small patches of M5 were recorded within seven habitats within the study area, as part of mosaic with similar mire communities (M4) or around transitional swamp margins (S9 and S10).

NVC Community	NVC Community Name	NVC Community Description	NVC Community Distribution
M6	*Carex echinata – Sphagnum fallax/denticulatum* mire	This mire is the major soligenous community of peats and peaty gleys irrigated by base poor waters in the sub-montane zone of northern and western Britain. It typically occurs as small stands among other mire communities, grasslands and heaths, and is sometimes found with swamp and spring vegetation.	M6 is widespread throughout the study area, in both upland and lowland settings, mostly as small flushes, runnels or soakaways, and along and within occluding ditches and minor watercourses. Three of the four sub-communities occur within the study area, including M6a, M6c and M6d. The M6c and M6d sub-communities are of very limited grazing value and of little economic importance. In some places M6 is associated with drainage but more generally it reflects the topography-influenced passage or retention of surface water.
M10	*Carex dioica - Pinguicula vulgaris* mire	The M10 mire is a soligenous mire of mineral soils and shallow peats kept very wet by base-rich, calcareous and oligotrophic waters (Rodwell *et al.*, 1991; Elkington *et al.*, 2001). The community includes a range of distinctive calcicolous flush vegetation in which the bulk of the sward is composed of small sedges, dicotyledons and bryophytes. It is essentially a small sedge mire and is usually found in small stands. The community can occur wherever there is flushing with base-rich water, either below a springhead or where water emerges more diffusely from the ground, most stands being constantly irrigated (Averis *et al.*, 2004).	M10 flushes are not frequent in the study area, being recorded in only five mapped habitats as relatively species-poor examples and little more than an open sward of sedges. The M10a sub-community is most frequent and present as threads through other habitats, especially M15 wet heath. This community is GWDTE, due to its dependency on these base-rich groundwater seepages, which are usually associated with a definite source point.
M23	*Juncus effusus/acutiflorus – Galium palustre* rush pasture	This rush-pasture is a community of gently-sloping ground in and around the margins of soligenous flushes, as a zone around topogenous mires and wet heaths, and in poorly drained, comparatively unimproved or reverted pasture. It can be found on a variety of moderately acid to neutral soils that are kept moist to wet for most of the year (Rodwell *et al.*, 1991; Elkington *et al.*, 2001). As a result this community can be, at least partially, potentially dependent on groundwater; however, it is also commonly associated with surface water flows and surface water collection.	M23 forms scattered stands throughout the study area, predominantly towards the lower flatter areas around the floodplains of watercourses and in wet neglected pasture. Both sub-communities (M23a, M23b) occur and frequently form mosaics with the M6 mire community. M23a is the more common, usually associated with surface water movement and is scattered throughout the length of the study area. M23b is scattered along areas of lower ground, within depressions where water collects and alongside minor watercourses and ditches.
CG10	*Festuca ovina – Agrostis capillaris – Thymus polytrichus grassland*	CG10 is a sub-montane community of base-rich and often moist brown earths which have developed over a wide variety of calcareous bedrocks and coarse-textured superficial deposits. The community can be found up to 750 m in altitude, and is generally restricted to areas of cool, moist and cloudy climatic conditions in the uplands. The grassland is typically a plagioclimax vegetation maintained by grazing (usually sheep) (Rodwell *et al.*, 1992; Cooper, 1997).	CG10 occurs locally within the study area, mostly as small patches of vegetation on thin rocky soils or among rocky outcrops. The majority of it is associated with U4, U1 and MG6 grassland, with the communities grading into each other in mosaic.
S11	*Carex vesicaria swamp*	The S11 community occurs in open-water transitions on mesotrophic inorganic or peaty substrates around lakes and in slow-moving or standing waters of streams and dykes. This community is usually dominated by *Carex vesicaria*. *C. vesicaria* forms an open or closed cover in which there is often some emergent Equisetum fluviatile and some scrambling *Galium palustre*; *Juncus effusus* can sometimes also be abundant. Few other species are frequent within the community (Rodwell *et al.*, 1995).	S11 is uncommon in the study area, with one small stand recorded around Milton of Nuide and all other remaining stands located on an expanse of wet rush pasture and marshy ground extending from the remains of Ruthven Barracks. The community is generally sub-dominant in mosaic with other wet communities, primarily S9 and M23.
W4	*Betula pubescens - Molinia caerulea woodland*	W4 is a community of moist, moderately acidic, though not necessarily highly oligotrophic, peaty soils. It is characteristic of thin or drying ombrogenous peats which are isolated from the influence of base-rich or eutrophic groundwaters, but is also found on peaty gleys flushed by rather base and nutrient-poor water (Rodwell *et al.*, 1991; Hall *et al.*, 2004).	Within the study area, W4 occurs mainly as small, scattered and fragmented stands and does not form any large expanses of woodland. It is mostly found in mosaic with drier woodlands (W11 and W17) and are scattered throughout mainly southern extents. Most of the patches are small with the exception of a larger area between ch. 44,200 and ch. 45,000 to the east of the existing A9.
W7	*Residual alluvial forests (Alnus glutinoso-incanae)*	W7 is typical of moist to very wet mineral soils which are only moderately base-rich and not very eutrophic (Rodwell *et al.*, 1991; Hall *et al.*, 2004). It is most extensive in the wetter parts of Britain, but usually occurs in soils where there is no great tendency for peat accumulation. There are three sub-communities; differences between them are related to the extent of waterlogging, the nature of the water supply and its movement.	There are a number of patches of W7 in the study area, which exhibit a wide range of variation within the bounds of the community. The areas ranged from being very wet, lush and moderately species-rich with field layers similar to mires (i.e. M23/ M27) through to drier and more species poor-stands (MG9-like). The majority of the areas are found lining roads on varying levels of peat soil, with the most substantial patch being located in the south of the study area, in mosaic with W11 and M15.

Table 3: GWDTE NVC Community and Sub-Community Details and Scoping

Polygon ID	Total Area (ha)	NVC Communities and Sub-communities with Percentage of Polygon Cover (in order of dominance)												Further Assessment Required	
		Comm. 1	%	Comm. 2	%	Comm. 3	%	Comm. 4	%	Comm. 5	%	Comm. 6	%	(Y/N)	Justification
A181	0.19	M15b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A301	0.60	S9a	95	S9b	4	M5	1				0		0	Y	Further consider likely dependence and potential impacts
A303	4.57	S9a	96	S9b	2	M5	1	S4a	1		0		0	Y	Further consider likely dependence and potential impacts
A304	0.49	S4a	96	M5	2	M4	1	M27	1		0		0	Y	Further consider likely dependence and potential impacts
A305	0.37	W3	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A307	1.86	W3	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A308	1.42	S9a	69	S9b	28	M5	2	M27a	1		0		0	Y	Further consider likely dependence and potential impacts
A309	0.96	W3	70	S9b	30		0				0		0	Y	Further consider likely dependence and potential impacts
A313	0.85	W3	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A316	1.23	W3	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A319	1.75	M27a	58	W3	40	M5	2				0		0	Y	Further consider likely dependence and potential impacts
A323	0.07	M27a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A325	0.71	W11d	50	W11c	10	W3	21	U4b	15	MG1	2	W4	2	Y	Further consider likely dependence and potential impacts
A326	1.32	W3	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A327	5.82	S10b	70	S10a	21	M27a	5	W3	4		0		0	Y	Further consider likely dependence and potential impacts
A328	1.12	M27a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A329	0.21	MG9a	80	MG9b	20		0				0		0	Y	Further consider likely dependence and potential impacts
A336	3.36	MG10a	65	M23b	25	U4b	10				0		0	Y	Further consider likely dependence and potential impacts
A338	0.68	MG10a	80	U4b	20		0				0		0	Y	Further consider likely dependence and potential impacts
A339	3.07	MG10a	80	M23b	15	U4b	5				0		0	Y	Further consider likely dependence and potential impacts
A340	1.63	MG9a	96	M23b	4		0				0		0	Y	Further consider likely dependence and potential impacts
A341	0.69	W3	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A342	0.40	W4	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A343	0.42	W5	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A344	1.20	MG10a	42	M23b	35	S9a	18	S10b	4	S4a	1		0	Y	Further consider likely dependence and potential impacts
A348	0.48	M23b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A352	0.04	M23b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A353	0.08	M23b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts

Polygon ID	Total Area (ha)	NVC Communities and Sub-communities with Percentage of Polygon Cover (in order of dominance)												Further Assessment Required	
		Comm. 1	%	Comm. 2	%	Comm. 3	%	Comm. 4	%	Comm. 5	%	Comm. 6	%	(Y/N)	Justification
A361	0.67	M23a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A362	1.01	M23a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A363	1.51	S9a	87	SW	8	S9b	3	M23a	2		0		0	Y	Further consider likely dependence and potential impacts
A368	0.20	U4b	80	M23b	20		0				0		0	Y	Further consider likely dependence and potential impacts
A369	0.52	M5	70	S10b	20	S9a	10				0		0	Y	Further consider likely dependence and potential impacts
A370	0.20	S10b	70	M23b	30		0				0		0	Y	Further consider likely dependence and potential impacts
A372	1.49	W3	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A373	0.26	M27a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A374	0.15	MG1a	50	SWS	34	M27a	12	U4a	4		0		0	Y	Further consider likely dependence and potential impacts
A378	0.29	W3	100		0		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
A379	0.35	M23a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A381	0.35	M25c	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A382	0.99	M23a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A386	0.96	M23a	97	S9a	2	MG9a	1				0		0	Y	Further consider likely dependence and potential impacts
A388	0.46	M25a	60	M25c	40		0				0		0	Y	Further consider likely dependence and potential impacts
A389	1.64	M6a	80	M25a	20		0				0		0	Y	Further consider likely dependence and potential impacts
A390	1.32	M25a	65	M6a	20	M25c	15				0		0	Y	Further consider likely dependence and potential impacts
A391	3.87	S9a	70	M25a	20	M25c	6	M6a	4		0		0	Y	Further consider likely dependence and potential impacts
A392	0.43	W3	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A394	0.25	M25a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A395	3.37	M15b	96	M6d	4		0				0		0	Y	Further consider likely dependence and potential impacts
A396	0.34	M25a	60	M15b	40		0				0		0	Y	Further consider likely dependence and potential impacts
A398	0.40	M15b	60	U4b	20	M25a	20				0		0	Y	Further consider likely dependence and potential impacts
A402	0.49	M23b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A405	1.90	M6d	90	M15b	10		0				0		0	Y	Further consider likely dependence and potential impacts
A406	0.34	M6d	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A407	1.02	U4b	96	M6d	4		0				0		0	Y	Further consider likely dependence and potential impacts
A415	0.36	W7a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A416	0.56	M23a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts

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		Comm. 1	%	Comm. 2	%	Comm. 3	%	Comm. 4	%	Comm. 5	%	Comm. 6	%	(Y/N)	Justification
A419	0.43	U4a	80	M6d	20		0				0		0	Y	Further consider likely dependence and potential impacts
A421	0.18	W7a	98	U4a	2		0				0		0	Y	Further consider likely dependence and potential impacts
A425	0.25	M23b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A426	0.51	MG10a	90	M23b	10		0				0		0	Y	Further consider likely dependence and potential impacts
A426	1.82	MG10a	90	M23b	10		0				0		0	Y	Further consider likely dependence and potential impacts
A430	0.49	MG10a	90	U4b	10		0				0		0	Y	Further consider likely dependence and potential impacts
A435	0.54	M23b	70	S9a	30		0				0		0	Y	Further consider likely dependence and potential impacts
A437	1.19	M23b	90	MG10a	8	S9a	2				0		0	Y	Further consider likely dependence and potential impacts
A438	0.25	MG9a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A439	0.60	S9a	70	M23b	28	U4b	2				0		0	Y	Further consider likely dependence and potential impacts
A440	1.00	MG9a	60	U4b	40		0				0		0	Y	Further consider likely dependence and potential impacts
A441	0.19	MG9a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A442	0.63	MG9a	60	U4b	40		0				0		0	Y	Further consider likely dependence and potential impacts
A443	1.19	M23b	50	S11a	45	S9a	5				0		0	Y	Further consider likely dependence and potential impacts
A444	0.27	MG9a	60	S9a	35	S11a	5				0		0	Y	Further consider likely dependence and potential impacts
A445	0.50	M23a	80	S11a	20		0				0		0	Y	Further consider likely dependence and potential impacts
A446	0.25	S9a	60	M23b	40		0				0		0	Y	Further consider likely dependence and potential impacts
A447	2.51	M23b	40	S9a	35	S11a	15	MG9a	10		0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
A448	0.97	S11a	80	M23b	15	S9a	3	M27a	2		0		0	Y	Further consider likely dependence and potential impacts
A450	1.82	M23a	60	S10b	40		0				0		0	Y	Further consider likely dependence and potential impacts
A455	1.04	W7a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A456	0.31	W7a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A457	12.84	U4b	40	MG9a	38	MG10a	15	M23a	6	S9a	1		0	Y	Further consider likely dependence and potential impacts
A458	0.99	U4b	55	M23a	45		0				0		0	Y	Further consider likely dependence and potential impacts
A461	0.10	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A462	0.51	U4b	97	M23b	2	S10b	1				0		0	Y	Further consider likely dependence and potential impacts
A463	0.12	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A464	0.44	MG10a	90	M23b	10		0				0		0	Y	Further consider likely dependence and potential impacts
A465	0.29	M23b	90	M23a	7	S9a	3				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m

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		Comm. 1	%	Comm. 2	%	Comm. 3	%	Comm. 4	%	Comm. 5	%	Comm. 6	%	(Y/N)	Justification
A466	0.10	MG10a	100		0		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
A468	0.18	M23b	100		0		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
A482	0.16	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A491	0.25	M10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A492	1.00	M15b	85	M25a	10	H12a	5				0		0	Y	Further consider likely dependence and potential impacts
A493	0.26	M25a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A498	0.08	M25a	100		0		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
A499	0.16	M6a	60	M25a	40		0				0		0	Y	Further consider likely dependence and potential impacts
A501	0.30	M15b	90	M25a	9	M10a	1				0		0	Y	Further consider likely dependence and potential impacts
A511	0.23	U4a	60	MG9a	40		0				0		0	Y	Further consider likely dependence and potential impacts
A522	0.25	M23a	60	U4b	40		0				0		0	Y	Further consider likely dependence and potential impacts
A524	10.83	M23a	86	M6d	10	U4a	3	M6a	1		0		0	Y	Further consider likely dependence and potential impacts
A537	0.11	A24	93	S19a	5	S11a	2				0		0	Y	Further consider likely dependence and potential impacts
A543	1.92	M15b	98	M6a	2		0				0		0	Y	Further consider likely dependence and potential impacts
A560	11.45	M15b	95	M25a	3	H12a	2				0		0	Y	Further consider likely dependence and potential impacts
A564	4.54	W4	97	W11d	3		0				0		0	Y	Further consider likely dependence and potential impacts
A569	3.43	M15b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A570	0.09	M6a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A573	2.13	M25a	90	M15b	10		0				0		0	Y	Further consider likely dependence and potential impacts
A574	0.96	M15b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A575	0.27	M6a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A583	0.84	M6a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A587	1.05	M6a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A588	0.46	H12a	70	M25a	25	U4a	5				0		0	Y	Further consider likely dependence and potential impacts
A589	0.13	M6a	60	M6d	40		0				0		0	Y	Further consider likely dependence and potential impacts
A591	2.25	M25a	90	H12a	10		0				0		0	Y	Further consider likely dependence and potential impacts
A592	0.38	M15b	50	M25a	45	M6a	5				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
A594	0.52	M25b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A597	0.26	M25a	80	H12a	20		0				0		0	Y	Further consider likely dependence and potential impacts

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		Comm. 1	%	Comm. 2	%	Comm. 3	%	Comm. 4	%	Comm. 5	%	Comm. 6	%	(Y/N)	Justification
A601	3.10	M15b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A602	0.20	W7a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A609	1.84	M25a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A614	0.18	H12a	60	M23b	40		0				0		0	Y	Further consider likely dependence and potential impacts
A619	0.35	M15b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A622	1.53	M25a	98	M17a	2		0				0		0	Y	Further consider likely dependence and potential impacts
A640	0.25	M6a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A640	0.11	M6a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A645	0.15	M25a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A646	0.06	W4	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A648	0.04	W4	100		0		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
A649	0.06	M25a	100		0		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
A650	2.50	M15b	98	M25a	2		0				0		0	Y	Further consider likely dependence and potential impacts
A652	7.93	M15b	85	M19a	15		0				0		0	Y	Further consider likely dependence and potential impacts
A653	1.98	M25a	85	M15b	15		0				0		0	Y	Further consider likely dependence and potential impacts
A654	0.25	M15b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A659	2.36	W7a	70	W7b	15	W11d	10	M15b	5		0		0	Y	Further consider likely dependence and potential impacts
A660	0.18	M25a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A662	0.19	U4a	90	MG1a	8	MG9a	2				0		0	Y	Further consider likely dependence and potential impacts
A663	1.16	H12a	80	M15b	10	SWS	8	M6a	1	U4a	1		0	Y	Further consider likely dependence and potential impacts
A706	2.11	M23a	97	S9a	3		0				0		0	Y	Further consider likely dependence and potential impacts
A707	1.24	M25a	60	S9a	35	M6c	5				0		0	Y	Further consider likely dependence and potential impacts
A709	0.97	W7a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
A715	0.68	W11d	85	MG10a	15		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
BA1	0.07	S9a	55	M20	20	M4	10	M6c	10	M17	5		0	Y	Further consider likely dependence and potential impacts
B6	0.06	M3	45	M4	35	M6a	10	U4	7	H12	3		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
B7	0.13	W4b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B8	0.11	M6	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B29	0.69	MG10a	100		0		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m

Polygon ID	Total Area (ha)	NVC Communities and Sub-communities with Percentage of Polygon Cover (in order of dominance)												Further Assessment Required	
		Comm. 1	%	Comm. 2	%	Comm. 3	%	Comm. 4	%	Comm. 5	%	Comm. 6	%	(Y/N)	Justification
B31	0.23	W6	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B35	0.24	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B38	0.09	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B42	0.48	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B54	1.65	U4	50	M23a	22	OV27	15	W6	5	OV25	5	MG1	3	Y	Further consider likely dependence and potential impacts
B57	0.44	W7	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B66	0.05	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B67	0.05	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B72	0.04	M23a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B81	0.13	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B82	0.19	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B83	0.20	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B87	0.02	MG10a	100		0		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
B88	0.12	M27	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B93	1.18	W6b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B95	0.18	W6	50	CP	50		0				0		0	Y	Further consider likely dependence and potential impacts
B96	0.69	W6e	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B97	0.21	M23a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B100	0.51	MG9	90	MG10a	10		0				0		0	Y	Further consider likely dependence and potential impacts
B101	0.32	W6e	90	U4	8	W23	2				0		0	Y	Further consider likely dependence and potential impacts
B108	0.42	W6	100		0		0				0		0	N	Within 100m of the permanent and temporary works boundaries beyond the River Spey at the Dellmore of Kingussie – see **Appendix 6.2** (**Volume 2**).
B110	1.22	MG9	90	MG10a	5	U4b	5				0		0	Y	Further consider likely dependence and potential impacts
B113	0.04	MG9	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B119	0.03	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B122	0.75	M23a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B123	0.03	M4	90	M5	10		0				0		0	Y	Further consider likely dependence and potential impacts
B124	0.35	W7	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B126	0.28	W3	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B134	0.30	M23a	55	M27	35	M23b	5	MG9	5		0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m

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		Comm. 1	%	Comm. 2	%	Comm. 3	%	Comm. 4	%	Comm. 5	%	Comm. 6	%	(Y/N)	Justification
B134	0.05	M23a	55	M27	35	M23b	5	MG9	5		0		0	Y	Further consider likely dependence and potential impacts
B136	0.42	MG9	100		0		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
B151	0.04	M23a	90	M4	10		0				0		0	Y	Further consider likely dependence and potential impacts
B156	0.64	M6d	94	M23b	5	M3	1				0		0	Y	Further consider likely dependence and potential impacts
B158	0.11	U4	97	CG10a	3		0				0		0	Y	Further consider likely dependence and potential impacts
B161	0.05	U4	98	CG10a	2		0				0		0	Y	Further consider likely dependence and potential impacts
B161	1.78	U4	98	CG10a	2		0				0		0	Y	Further consider likely dependence and potential impacts
B179	1.84	MG10a	45	U4	30	M23a	15	M6	10		0		0	Y	Further consider likely dependence and potential impacts
B181	0.04	M23a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B182	0.64	W11	50	W4	35	W6	10	W7	5		0		0	Y	Further consider likely dependence and potential impacts
B183	0.90	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B184	0.61	M23a	75	MG9	15	MG10a	10				0		0	Y	Further consider likely dependence and potential impacts
B187	0.63	W7	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B188	0.22	M23a	80	S19	12	MG9	5	S9a	3		0		0	Y	Further consider likely dependence and potential impacts
B195	0.65	M4	40	M19	27	M3	20	M15b	10	H12a	3		0	Y	Further consider likely dependence and potential impacts
B198	3.68	W17	65	W11	30	H12a	3	W4	2		0		0	Y	Further consider likely dependence and potential impacts
B202	0.09	M23a	90	S9a	10		0				0		0	Y	Further consider likely dependence and potential impacts
B213	2.62	W11	50	W17	30	W4	20				0		0	Y	Further consider likely dependence and potential impacts
B214	3.22	M15b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B217	0.16	W4	45	W11	45	W17	5	U4	5		0		0	Y	Further consider likely dependence and potential impacts
B217	1.56	W4	45	W11	45	W17	5	U4	5		0		0	Y	Further consider likely dependence and potential impacts
B225	0.31	M17	97	W4	3		0				0		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML
B227	1.37	M15b	75	M17	15	M25	6	M3	3	M4	1		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML
B228	0.06	W4	100		0		0				0		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML
B229	0.09	M25	100		0		0				0		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML
B233	0.18	W4	95	W17	5		0				0		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML
B237	1.54	M6d	64	M15b	27	W4b	5	M25	3	M3	1		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML
B238	1.17	H12a	95	M15b	5		0				0		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML
B242	0.84	M6d	100		0		0				0		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML

Polygon ID	Total Area (ha)	NVC Communities and Sub-communities with Percentage of Polygon Cover (in order of dominance)												Further Assessment Required	
		Comm. 1	%	Comm. 2	%	Comm. 3	%	Comm. 4	%	Comm. 5	%	Comm. 6	%	(Y/N)	Justification
B244	1.69	M15c	55	M15b	40	H12a	4	M3	1		0		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML
B245	0.18	M15b	100		0		0				0		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML
B246	0.20	M25	100		0		0				0		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML
B247	1.70	M25	90	M15b	7	M6c	2	M6d	1		0		0	Y	Further consider likely dependence and potential impacts
B249	3.07	MG10a	50	M6d	40	M25	6	M3	2	S9a	2		0	Y	Further consider likely dependence and potential impacts
B254	6.33	M15b	55	M17	40	M25	4	M3	1		0		0	Y	Further consider likely dependence and potential impacts
B258	0.22	M17	90	M6	10		0				0		0	Y	Further consider likely dependence and potential impacts
B262	0.07	M15b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B276	0.01	M23a	100		0		0				0		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML
B279	1.66	M15b	78	M17	14	M4	4	M3	2	M6d	2		0	Y	Further consider likely dependence and potential impacts
B285	0.20	M25	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B289	0.53	W11	90	W7c	10		0				0		0	Y	Further consider likely dependence and potential impacts
B290	4.05	M6	70	M4	14	M15b	10	M3	3	S10	2	W11	1	Y	Further consider likely dependence and potential impacts
B292	0.05	MG9	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B293	0.30	M15b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B294	0.51	U4	35	M25	35	U20	25	W4	3	U5	2		0	Y	Further consider likely dependence and potential impacts
B296	0.10	M25	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
B297	0.51	W4	40	M25	30	U20	25	W11	3	H12a	2		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
B298	0.14	M15b	100		0		0				0		0	N	More than 100m downgradient of permanent and temporary works boundaries and located beyond HML
B301	1.50	M25	70	M15b	15	M6d	13	M4	2		0		0	Y	Further consider likely dependence and potential impacts
B306	1.55	W4	50	U4	30	W11	10	M25	5	M6d	5		0	Y	Further consider likely dependence and potential impacts
B309	1.44	U4	70	U2	15	H12a	8	H18	5	M25	2		0	Y	Further consider likely dependence and potential impacts
B315	0.49	W11	80	W6	10	CP	5	U4	3	MG1	2		0	Y	Further consider likely dependence and potential impacts
B325	0.21	M6	60	W4b	40		0				0		0	Y	Further consider likely dependence and potential impacts
C6	0.17	MG9b	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
C15	0.17	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
C16	0.16	MG10a	92	S9	8		0				0		0	Y	Further consider likely dependence and potential impacts
C18	0.40	MG10a	95	S9	5		0				0		0	Y	Further consider likely dependence and potential impacts
C19	0.47	MG6	80	M23b	20		0				0		0	Y	Further consider likely dependence and potential impacts

Polygon ID	Total Area (ha)	NVC Communities and Sub-communities with Percentage of Polygon Cover (in order of dominance)												Further Assessment Required	
		Comm. 1	%	Comm. 2	%	Comm. 3	%	Comm. 4	%	Comm. 5	%	Comm. 6	%	(Y/N)	Justification
C24	0.21	M6c	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
C27	0.81	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
C36	0.39	MG10a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
C42	0.12	BG	60	M23	20	MG1	20				0		0	Y	Further consider likely dependence and potential impacts
C52	0.13	M6d	50	M23a	50		0				0		0	Y	Further consider likely dependence and potential impacts
C53	0.36	M15a	80	M17a	20		0				0		0	Y	Further consider likely dependence and potential impacts
C59	0.17	M15a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
C61	1.75	W7	80	M6c	20		0				0		0	Y	Further consider likely dependence and potential impacts
C65	0.08	M23a	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
C68	0.38	M6c	100		0		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
C69	0.11	M15	60	U5	25	M10	15				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
C70	0.81	U5	98	M15a	2		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
C72	0.99	M15a	68	M6a	12	M6d	12	M10	8		0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
C77	0.47	M15b	80	M15a	9	W19a	8	M6d	2	M10	1		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
C78	0.47	W19a	88	M15b	10	U5	2				0		0	Y	Further consider likely dependence and potential impacts
C79	1.16	M15b	90	M6d	10		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
C80	0.11	M15c	88	M6d	12		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
C81	1.84	W17	97	M23	3		0				0		0	Y	Further consider likely dependence and potential impacts
C82	0.21	U4a	80	CG10a	12	U20a	8				0		0	Y	Further consider likely dependence and potential impacts
C94	0.43	MG10a	94	MG11a	6		0				0		0	Y	Further consider likely dependence and potential impacts
C100	0.07	U4a	96	CG10a	4		0				0		0	Y	Further consider likely dependence and potential impacts
C102	0.48	U4b	40	U5	20	U20a	20	M15b	20		0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
C103	0.35	M15b	67	M6d	33		0				0		0	Y	Further consider likely dependence and potential impacts
C105	0.83	H10a	85	U4a	10	H10d	3	CG10a	2		0		0	Y	Further consider likely dependence and potential impacts
C109	0.16	U1b	90	CG10a	10		0				0		0	Y	Further consider likely dependence and potential impacts
C110	1.75	U4b	92	U1b	4	CG10a	2	H10a	2		0		0	Y	Further consider likely dependence and potential impacts
C128	0.45	U4a	80	U4c	12	CG10a	8				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
C135	0.10	MG9	60	MG10	40		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
C135	0.04	MG9	60	MG10	40		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m

Polygon ID	Total Area (ha)	NVC Communities and Sub-communities with Percentage of Polygon Cover (in order of dominance)												Further Assessment Required	
		Comm. 1	%	Comm. 2	%	Comm. 3	%	Comm. 4	%	Comm. 5	%	Comm. 6	%	(Y/N)	Justification
C136	0.10	W7	100		0		0				0		0	N	More than 100m from permanent and temporary works boundaries and more than 250m from nearest cutting greater than 1.00m
C139	0.32	W4	100		0		0				0		0	Y	Further consider likely dependence and potential impacts
C142	1.04	MG6	75	U4b	20	OV25a	4	CG10a	1		0		0	Y	Further consider likely dependence and potential impacts
C142	0.40	MG6	75	U4b	20	OV25a	4	CG10a	1		0		0	Y	Further consider likely dependence and potential impacts
C145	0.32	MG6	98	CG10a	2		0				0		0	Y	Further consider likely dependence and potential impacts
C146	5.79	U4a	76	CG10a	12	U4b	10	H10d	2		0		0	Y	Further consider likely dependence and potential impacts
C147	1.48	U4b	40	U4a	30	H10d	22	CG10a	8		0		0	Y	Further consider likely dependence and potential impacts

Assessment of Likely Dependence

3.1.18 A total of 225 potential GWDTE were identified as requiring further assessment from **Table 3**. For each of these, qualitative analysis of the NVC communities and sub-communities present and consideration of possible water supply mechanisms based on site observations, topography, the underlying geology, hydrogeology and the potential for surface water contributions has been undertaken. This was completed through examination of ecology survey data, photographs and aerial photography, in addition to SEPA 1:200 year flood mapping and flood modelling presented in **Appendix 11.3** (**Volume 3**).

3.1.19 This information was used to inform the likely dependence on groundwater for each area within their individual settings and was further guided by the following outline decision tool derived by Botanaeco (2016):

- Where GWDTE vegetation is evidently influenced by groundwater discharge (from a point source such as a spring head (NVC M31, M32, M33) and/ or base-enriched (NVC M10, M11, M37, M38)), groundwater dependence is classed as high
- Where GWDTE vegetation is associated with surface water features in certain topographic settings (watershed, watercourse (river, stream, drain, gulley), floodplain, waterbody (pond, lochan, loch) or ponding location (depression, valley bottom, marsh, swamp)), groundwater dependence is no more than moderate and is likely to be low, depending on additional consideration of the underlying and surrounding hydrogeology and ecology
- Where GWDTE vegetation is associated with an ombrogenous system (presence of bog or wet heath habitat, species and/ or associations (NVC M15 to M19) or deep peat not confined to depressions or valleys), groundwater dependence is no more than moderate and is likely to be low, depending on additional consideration of the underlying and surrounding hydrogeology and ecology.

3.1.20 The findings of the analysis and assigned sensitivities based on the criteria in **Table 10-4** within **Chapter 10** (**Volume 1**) are summarised in **Table 4**. For each habitat, these are discussed in terms of having high, moderate or low dependence on groundwater, with this being assigned based on the vegetation cover, the likelihood of groundwater dependence, the likelihood of surface water dependence, or balanced consideration of these.

3.1.21 The potential wetland habitat types and sub-types that may apply to the GWDTE are also highlighted, based on the guidance in *'WFD95: A Functional Wetland Typology for Scotland'* (SNIFFER, 2009). For this, NVC survey findings were used, together with consideration of the landscape setting, to assign the relevant categories. In doing so, polygons recorded to contain a single NVC community are assigned a wetland type and sub-type based on this, and polygons recorded to contain a mosaic of NVC communities are assigned wetland types and sub-types based on balanced consideration of these or in order of dominance. Only two wetland types and sub-types are identified from any mosaic and for mosaics where not all of the NVC communities are a wetland, then only the wetland NVC is considered.

3.1.22 For instances where groundwater dependent vegetation forms the sub-dominant or partial cover of a habitat; this is acknowledged in the hydro-ecological consideration and assigned likely dependence with an asterisk (*). Such sub-dominant features when comprising NVC M6, M15a or M10 flushes have also been identified as target notes in some instances on **Drawings 10.23** to **10.34** (**Volume 2**).

Table 4: GWDTE Assessment of Likely Groundwater Dependence

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A181	Moderate	ch. 41,700	Wet heath	Wet heath	Humus-iron podzols with peaty podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b) on gently sloping ground between two breaks in slope, to the south east of the existing A9 carriageway near Ralia. The area occurs over shallow peat and peaty soils <0.50m thickness, and the topographic setting suggests it is likely to receive reasonable inputs of surface water run-off from adjacent ground. The hydrogeology does not suggest a groundwater component, and this was supported no field observations of groundwater seepage. Dependence on groundwater inputs are assessed to be low.	Low	Medium
A301	Partial (High Sub-dominant)	ch. 55,150	Swamp Fen	Swamp Fen	Mineral alluvial soils with peaty alluvial soils and lacustrine deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of swamp (S9a, S9b) with mire (M5) located on flat-lying ground in the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil and Dunachton compartments), to the south of the existing A9 carriageway and adjacent north of the Highland Mainline railway. The habitat is located within an area of floodplain, identified as reedbed in the Scottish Wetland Inventory and is affected by the apparent retention of water between the railway and B9152. It is likely to receive inputs of surface water run-off from adjacent ground, but permeable and productive strata to the north are also likely to be associated with a groundwater supply and the water table is evidently shallow. Based on these considerations, but owing to some influence of surface water, groundwater dependence of the mire vegetation is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen and upland flushes, fen and swamp) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S9 and M5 are also components of the vascular plant assemblage.	Moderate*	High
A303	Partial (High Sub-dominant)	ch. 54,750	Fen Reedbed	Fen Reedbed	Mineral alluvial soils with peaty alluvial soils lacustrine deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of swamp (S9a, S9b, S4a) with mire (M5) located on flat-lying ground in the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil and Dunachton compartments), to the south of the existing A9 carriageway and adjacent north of the Highland Mainline railway. The habitat is located within an area of floodplain, identified as non-specific in the Scottish Wetland Inventory and is affected by the apparent retention of water between the railway and B9152. It is likely to receive inputs of surface water and run-off from adjacent ground, but permeable and productive strata to the immediate north are also likely to be associated with a groundwater supply to the area and the water table is evidently shallow. Based on these considerations, but owing to some influence of surface water, groundwater dependence of the mire vegetation is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen and upland flushes, fen and swamp) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S9 and M5 are also components of the vascular plant assemblage.	Moderate*	High
A304	Partial (High Sub-dominant)	ch. 54,950	Swamp Fen	Swamp Fen	Mineral alluvial soils with peaty alluvial soils and lacustrine deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of reedbed (S4a) with mire (M4, M5, M27) located on flat-lying ground in the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil and Dunachton compartments), to the south of the existing A9 carriageway and adjacent north of the Highland Mainline railway. The habitat is located within an area of floodplain, identified as non-specific/ reedbed in the Scottish Wetland Inventory and the surrounding areas are evidently affected by the retention of water between the railway and B9152. It is likely to receive inputs of surface water and run-off from adjacent ground, but permeable and productive strata to the immediate north are also likely to be associated with a groundwater supply to the habitat and the water table is evidently shallow. Based on these considerations, but owing to some influence of surface water, groundwater dependence of the mire vegetation is assessed as moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC M5 is also a component of the vascular plant assemblage.	Moderate*	High
A305	Moderate	ch. 55,025	Wet woodland	Other wet woodland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular flow) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W3) located on gently sloping ground to the south of the B9152 and at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil and Dunachton compartments). The habitat is located within an area of floodplain and is likely to receive inputs of surface water run-off from adjacent sloping ground, but the underlying hydrogeology is indicated to be permeable and productive, so is also likely to be associated with a groundwater supply to the habitat. Based on these considerations, groundwater dependence is assessed to be moderate and it is noted that NVC W3 is a component of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A307	Moderate	ch. 55,250	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular flow) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W3) located on gently sloping and flat-lying ground to the south of the B9152, within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil and Dunachton compartments). The habitat is located within an area of floodplain and is likely to receive inputs of surface water run-off from adjacent sloping ground and surrounding areas of open water wetland identified as reedbed in the Scottish Wetland Inventory. No evidence of groundwater seepage was observed, but the underlying and upslope hydrogeology is indicated to be permeable and productive, so is likely to be associated with a groundwater supply to the habitat. Based on these considerations, groundwater dependence is assessed to be moderate, and it is noted that NVC W3 is also a component of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High
A308	Partial (High Sub-dominant)	ch. 55,400	Swamp Fen	Swamp Fen	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular flow) in superficial deposits and very low (fracture flow) in bedrock.	Area of swamp (S9a, S9b) with mire (M5, M27a) located on flat-lying ground in the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC, to the south of the existing A9 carriageway and adjacent north of the Highland Mainline railway, between this and the B9152. The habitat is located within an area of floodplain and is affected by the apparent retention of water between the railway and B9152. It is likely to receive inputs of surface water run-off from adjacent ground, but permeable and productive strata are present underlying the habitat and to the immediate north, which is likely to be associated with a groundwater supply and the water table is evidently shallow. Based on these considerations, but owing to some influence of surface water, groundwater dependence of the mire vegetation is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar and SSSI. NVC S9 and M5 are also components of the vascular plant assemblage.	Moderate*	High
A309	Moderate	ch. 55,950	Wet woodland Swamp	Other wet woodland Swamp	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular flow) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W3) and swamp (S9b) located on flat-lying ground to the south of the B9152, at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat is located within an area of floodplain and is likely to receive inputs of surface water run-off from adjacent sloping ground and surrounding areas of open water wetland. No evidence of groundwater seepage was observed but the area is identified as wet woodland in the Scottish Wetland Inventory. The underlying and upslope hydrogeology is also indicated to be permeable and productive, and is likely to be associated with a groundwater supply to the habitat. Based on these considerations, groundwater dependence of the wet woodland vegetation is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar and SSSI. NVC W3 and S9 are also components of the vascular plant assemblage.	Moderate	High
A313	Moderate	ch. 56,400	Wet woodland	Other wet woodland	Humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular flow) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W3) located on gently sloping and flat-lying ground to the south of the B9152, at the fringes of and extending into the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat is located within an area of floodplain and is likely to receive inputs of surface water run-off from adjacent sloping ground and surrounding areas of open water wetland (identified as swamp on the Scottish Wetland Inventory). No evidence of groundwater seepage was observed during ecology surveys, but the underlying and upslope hydrogeology is indicated to be permeable and productive, and is likely to be associated with a groundwater supply to the habitat. Based on these considerations, groundwater dependence is assessed to be moderate and it is noted that NVC W3 is also a component of the vascular plant assemblage interest of the River Spey – Insh Marshes Ramsar and SSSI, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High
A316	Moderate	ch. 56,645 (tie-in)	Wet woodland	Other wet woodland	Humus-iron podzols and lacustrine deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular flow) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W3) located on gently sloping and flat-lying ground to the south of the B9152, at the fringes of and extending into the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat is located within an area of floodplain and is likely to receive inputs of surface water run-off from adjacent sloping ground and surrounding areas of open water wetland (identified as swamp on the Scottish Wetland Inventory). No evidence of groundwater seepage was observed during ecology surveys, but the underlying and upslope hydrogeology is indicated to be permeable and productive, and is likely to be associated with a groundwater supply to the habitat. Based on these considerations, groundwater dependence is assessed to be moderate and it is noted that NVC W3 is also a component of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A319	Moderate	ch. 54,750	Fen Wet woodland	Fen Wet woodland	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular flow) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M27a, M5) and wet woodland (W3) located on flat-lying ground in the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil and Dunachton compartments), to the south of the existing A9 carriageway and adjacent north of the Highland Mainline railway. The habitat is located within an area of floodplain, identified as non-specific in the Scottish Wetland Inventory, with the surrounding areas affected by the apparent retention of water between the railway and B9152. It is likely to receive inputs of surface water run-off from adjacent ground and no evidence of groundwater seepage was observed during ecology surveys. However, the underlying and upslope hydrogeology is indicated to be permeable and productive, and is likely to be associated with a groundwater supply to the habitat, with the water table evidently shallow. Based on these considerations, but also owing to some influence of surface water, groundwater dependence is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC M5 and W3 are also components of the vascular plant assemblage.	Moderate	High
A323	Moderate	ch. 54,100	Fen	Fen	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular flow) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M27a) located on sloping ground adjacent to the south of the existing A9 carriageway and partially occurring over the existing embankment for this. No evidence of groundwater seepage was observed during ecology surveys and the habitat is likely to receive significant inputs of surface water run-off due to its topographic setting. No evidence of groundwater seepage was observed during ecology surveys, but the hydrogeological setting indicates that the habitat occurs along a permeable and productive zone, which is likely to be associated with a groundwater supply. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
A325	Partial (Moderate Sub-dominant)	ch. 54,100	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular flow) in superficial deposits and very low (fracture flow) in bedrock.	Large linear area of predominantly dry woodland (W11d, W11c) and grasslands (U4b, MG1), but partial cover of wet woodland (W3). The habitat is located adjacent to the south of the B9152 at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil compartment), and within an area of floodplain. The predominant dry nature of the habitat may be representative of influence adjacent infrastructure, but the sub-dominant wet component may also be associated with groundwater supply from permeable and productive superficial deposits, as identified for other adjacent habitats. Based on these considerations, groundwater dependence of the wet woodland vegetation is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), NVC W3, W4 and W11 are also noted to be components of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR.	Moderate*	High
A326	Moderate	ch. 54,150	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and lacustrine deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W3) located on flat-lying ground to the south of the B9152, at the fringes of and extending into the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil compartment). The habitat is located within an area of floodplain and is likely to receive inputs of surface water run-off from adjacent sloping ground. No evidence of groundwater seepage supplying the area was observed but the hydrogeology is indicated to be permeable and productive, and is likely to be associated with a groundwater supply to the habitat, with the water table evidently shallow. Based on these considerations, groundwater dependence is assessed to be moderate. NVC W3 is also noted to be a component of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High
A327	Partial (Moderate Sub-dominant)	ch. 54,150	Swamp Fen	Swamp Fen	Mineral alluvial soils with peaty alluvial soils and lacustrine deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Large area of swamp (S10a, S10b), mire (M27a) and wet woodland (W3) located on flat-lying ground to the south of the B9152, adjacent north of the Highland Mainline railway and within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil compartment). The habitat is located within an area of floodplain and is likely to receive inputs of surface water run-off from adjacent sloping ground. The Scottish Wetland Inventory identifies the area as fen, wet woodland and non-specific. The upslope hydrogeology is also indicated to be permeable and productive, and is likely to be associated with a groundwater supply to the habitat. Based on these considerations, groundwater dependence of the mire and wet woodland is assessed as moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC W3 is also noted to be a component of the vascular plant assemblage.	Moderate*	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A328	Moderate	ch. 53,850	Fen	Fen	Mineral alluvial soils with peaty alluvial soils alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M27a) located on flat-lying ground to the south of the B9152, adjacent north of the Highland Mainline railway and within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil compartment). The habitat is located within an area of floodplain, adjacent to a drainage channel and is likely to receive inputs of surface water run-off from adjacent sloping ground. The Scottish Wetland Inventory identifies the area as fen and wet woodland, with the underlying and upslope hydrogeology indicated to be permeable and productive. As this is likely to be associated with a groundwater supply to habitats in this area, groundwater dependence is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR.	Moderate	High
A329	Moderate	ch. 53,825	Wet grassland	Marshy grassland	Humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of marshy grassland (MG9a, MG9b) located on flat-lying ground to the south of the B9152 and within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil compartment). The habitat is located within an area of floodplain and marks a transitional zone (together with polygon A325) at the margins of adjacent swamp, mire and wetland. Based on the underlying and upslope hydrogeology, groundwater dependence is assessed to be moderate. NVC MG9 is also noted to be a component of the vascular plant assemblage of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High
A336	Moderate	ch. 53,450	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium/ alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Large area of rush pasture (MG10a), mire (M23b) and grassland (U4b) located to the south of the Highland Mainline railway and to the east of the Raitts Burn confluence with the River Spey. The habitat is located within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Balavil compartment) and wholly within the floodplain. No evidence of groundwater seepage or upwelling were observed supplying the habitat during ecology surveys but some groundwater dependence associated with shallow water tables cannot be discounted based on the hydrogeological and topographic setting, and this is assessed to be moderate.	Moderate	High
A338	Moderate	ch. 53,550	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) and grassland (U4b) located over flat-lying ground to the south of the Highland Mainline railway and to the east of the Raitts Burn confluence with the River Spey. The habitat is located within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Balavil compartment), wholly within the floodplain and flanked by two drainage channels. No evidence of groundwater seepage or upwelling were observed during ecology surveys but some groundwater dependence associated with shallow water tables cannot be discounted based on the hydrogeological and topographic setting. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
A339	Moderate	ch. 53,750	Wet grassland	Marshy grassland	Humus-iron podzols, some peaty gleys and humic gleys, mineral alluvial soils with peaty alluvial soils and alluvium/ lacustrine/ alluvial fan deposits overlying. Aquifer productivity is mapped to vary between not a significant aquifer and moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a), mire (M23b) and grassland (U4b) located adjacent to the south of the Highland Mainline railway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Balavil compartment). The habitat is wholly within the floodplain and flanked by a series of drainage channels. No evidence of groundwater seepage or upwelling were observed supplying the habitat during ecology surveys but some groundwater dependence associated with shallow water tables cannot be discounted based on the hydrogeological and topographic setting. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
A340	Moderate	ch. 53,300	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium/ alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of marshy grassland (MG9a) and mire (M23), located adjacent to the south of the Highland Mainline railway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). The habitat is wholly within an area of floodplain, to the east of the Raitts Burn confluence with the River Spey and is bisected by drainage channels. The topography gently slopes towards Raitts Burn and the habitat is identified as marshy grassland and peat bog in the Scottish Wetland Inventory. No evidence of groundwater seepage or upwelling were observed during ecology surveys, but the underlying hydrogeology and topographic setting mean some groundwater dependence associated with shallow water tables cannot be discounted. Based on these considerations, groundwater dependence is assessed to be moderate. NVC MG9 is also noted to be a component of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A341	Moderate	ch. 53,150	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and alluvium/ alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W3) located adjacent to the south of the Highland Mainline railway and within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). The habitat is wholly within the flood extents of the River Spey, to the east of the Raitts Burn confluence with this and is flanked by drainage channels. The topography is generally flat-lying and the habitat is identified as fen and wet woodland within the Scottish Wetland Inventory. No evidence of groundwater seepage or upwelling were observed during ecology surveys, but the underlying hydrogeology and topographic setting mean some groundwater dependence associated with shallow water tables cannot be discounted. Based on these considerations, groundwater dependence is assessed to be moderate. NVC MG9 is also noted to be a component of the vascular plant assemblage interest of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High
A342	High	ch. 53,100	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W4) located adjacent to the south of the Highland Mainline railway near Chapelpark and east of Lynchat. The habitat occurs over generally flat-lying ground on the edge of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment), within the River Spey floodplain. The surrounding areas are evidently affected by the existing infrastructure and some drainage channels that are evident, and flooding may be periodically likely. No evidence of groundwater seepage or upwelling were observed during ecology surveys, but the hydrogeology means some groundwater dependence associated with shallow water tables cannot be discounted. Based on these considerations and the topographic setting, groundwater dependence is assessed to be moderate. NVC W4 is also noted to be a component of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High
A343	Moderate	ch. 53,000	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Relatively small patch of wet woodland (W5) adjacent to the south of the Highland Mainline railway near Chapelpark and east of Lynchat. The habitat occurs over generally flat-lying ground on the edge of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment), within the River Spey floodplain. The surrounding areas are evidently affected by the existing infrastructure and some drainage channels that are evident, while flooding may be periodically likely. The habitat is found in transition to S9 and S10 swamp and is identified as wet woodland/ fen within the Scottish Wetland Inventory. Combined with the underlying and surrounding hydrogeology (which suggest some groundwater dependence cannot be ruled out), groundwater dependence is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat represents an area of alder woodland on floodplain, which is a qualifying interest feature of the Insh Marshes SAC. NVC W5 is also noted to be a component of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR.	Moderate	High
A344	Partial (Moderate/ High Sub-dominant)	ch. 53,225	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) and mire (M23b) at the edge of sub-dominant swamp and reedbed (S9a, S10b, S4a), adjacent to the south of the Highland Mainline railway near Chapelpark and east of Lynchat. The habitat occurs over generally flat-lying ground to the west of the Raitts Burn confluence with the River Spey, and wholly within the floodplain. It is located in the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Lynchat compartment), identified as wet/ marshy grassland and quaking bog/ peat bog in the Scottish Wetland Inventory. No evidence of groundwater seepage or upwelling were observed supplying the habitat during ecology surveys, but the mire vegetation was noted to be focussed along a drainage channel in the area and the underlying hydrogeology means groundwater dependence associated with shallow water tables cannot be discounted and is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S9 is also a component of the vascular plant assemblage.	Moderate	High
A348	High	ch. 53,050	Wet grassland	Marshy grassland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23b) located within an oblong topographic depression adjacent to the east of Chapelpark and at the base of an existing embankment to the A9 carriageway. The habitat grades into and surrounds an area of swamp (S9a) and owing to the topographic setting, is likely to receive significant inputs of surface water run-off from the surrounding area. No evidence of groundwater seepage were observed supplying the habitat during ecology surveys, but the underlying hydrogeology means groundwater inputs cannot be discounted. Based on these considerations, groundwater dependence is assessed to be no more than moderate.	Moderate	High
A352	High	ch. 52,950	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23b) located within a small topographic depression adjacent to the east of Chapelpark and adjacent to the north of the B9152. The habitat occurs in a natural low point and is likely to receive significant inputs of surface water run-off from the surrounding area as a result. No evidence of groundwater seepage were observed supplying the habitat during ecology surveys, but the underlying hydrogeology means groundwater inputs cannot be discounted. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A353	High	ch. 53,175	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23b) located within a topographic depression and ponding location to the east of Chapelpark and adjacent to the north of the B9152. Owing to the topographic setting, the habitat occurs in a natural low point and is likely to receive significant inputs of surface water run-off from the surrounding area as a result – as evidenced by the ponding of water. No evidence of groundwater seepage supplying the habitat and no outflow was observed. This may suggest that surface water collects in this location and percolates into the underlying superficial deposits, but the underlying hydrogeology means groundwater inputs also cannot be discounted. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
A361	High	ch. 52,450	Wet grassland	Marshy grassland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23b) located on sloping/ becoming flat-lying ground adjacent to the south of the existing A9 carriageway at Lynchat. The area is lower lying than the majority of its surroundings and is likely to receive reasonable inputs of surface water run-off as a result. Potential seepages of groundwater supplying the area were identified during field surveys however, and it is noted that the habitat appears to be part of a wider complex downslope, grading into polygon A362 (mire) and A363 (swamp/ mire). The habitat is separated from these via a floated track, with cross-culverts and outflows of noted from it. Based on these considerations and the indicated hydrogeology, groundwater dependence is assessed to be high.	High	Very High
A362	High	ch. 52,500	Wet grassland	Marshy grassland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23b) located on gently sloping/ flat-lying ground downslope of polygon A361. The area is lower than the majority of its surroundings and is likely to receive reasonable inputs of surface water run-off. However, outflows from polygon A361 via cross-culverts under a track were also observed as a water supply to the area and for similar reasons to this, groundwater dependence is assessed to be high.	High	Very High
A363	Partial (High Sub-dominant)	ch. 52,500	Swamp Wet grassland	Swamp Marshy grassland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of swamp (S9a, S9b), standing water and mire (M23a) at the margins of this, located downslope of polygons A361 and A362. Like these, the area is low-lying and comprises a clear wetland, likely to receive reasonable inputs of surface water run-off. However, groundwater dependence for the mire vegetation is assessed to be high based on similar considerations as applied for polygons A361 and A362.	High*	Very High
A368	Partial (High Sub-dominant)	ch. 52,850	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium/ alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (U4b) and mire (M23b) located on flat-lying ground at the fringe of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment), adjacent to the south of the Highland Mainline railway near Chapelpark and within the River Spey floodplain. The surrounding areas are affected by existing infrastructure and shallow drainage, and flooding may be periodically likely. The wet vegetation in the habitat may be associated with through-flow from a drainage issues and sink shown on OS mapping to the north of the railway, which subsequently grades into polygon A369 (mire/ swamp). Based on these considerations and the hydrogeology (which suggest some dependence on groundwater due to shallow water tables cannot be ruled out), groundwater dependence of the mire vegetation is assessed to be moderate.	Moderate*	High
A369	High	ch. 53,000	Bog Swamp	Quaking bog Swamp	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M5) and swamp (S10b, S9a) located on flat-lying marshy ground in the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment), to the south of the Highland Mainline railway near Chapelpark and within the River Spey floodplain. The surrounding areas are affected by existing infrastructure and shallow drainage, and flooding may be periodically likely. No evidence of groundwater seepage or upwelling were observed during ecology surveys, but the habitat may be associated with through-flow from a drainage issues and sink shown on OS mapping to the north of the railway. Combined with the underlying and surrounding hydrogeology (which suggest some dependence on groundwater due to shallow water tables cannot be ruled out), groundwater dependence is assessed to be moderate in this setting. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat also corresponds to an area of transition mire and quaking bog, which is a qualifying interest feature of the Insh Marshes SAC. NVC M5 and S9 are also components of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR.	Moderate	High
A370	Partial (High Sub-dominant)	ch. 52,800	Swamp Wet grassland	Swamp Wet grassland	Mineral alluvial soils with peaty alluvial soils and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of swamp (S10b) and mire (M23b) located on flat-lying ground between the B9152 and Highland Mainline railway, within an area of floodplain. The area is topographically lower than its surroundings and it is likely to receive reasonable inputs of surface water run-off as a result, some of which may collect here due to the presence of an access track along the eastern boundary of the habitat. No evidence of groundwater supplying the area was observed during ecology surveys, but based on the indicated hydrogeology (which suggest groundwater inputs cannot be ruled out), groundwater dependence of the mire vegetation is assessed to be moderate.	Moderate*	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A372	Moderate	ch. 53,000	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W3) located to the south of the A9 carriageway, between the B9152 and the Highland Mainline railway near Chapelpark. The habitat occurs over generally flat-lying ground just beyond the boundaries of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment) and within an area of floodplain. The surrounding areas are affected by the existing infrastructure and flooding may be periodically likely. A drainage issues and sink are also shown on OS mapping flowing through the habitat. Based on these considerations and given the hydrogeological setting (which suggests groundwater input cannot be ruled out), groundwater dependence is assessed to be moderate.	Moderate	High
A373	Moderate	ch. 53,200	Fen	Fen	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M27a) located to the south of the A9 carriageway, between the B9152 and the Highland Mainline railway near Chapelpark. The habitat occurs over generally flat-lying ground just beyond the boundaries of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment), within an area of floodplain. The surrounding areas are affected by the existing infrastructure and some drainage channels that are evident, while flooding may be periodically likely. No evidence of groundwater supplying the area was identified during ecology surveys, but the habitat is immediately downgradient of polygon A353 – where surface water/ groundwater may percolate into the underlying superficial deposits. The vegetation may therefore be partly associated with a through-flow from this and groundwater dependence is assessed to be moderate.	Moderate	High
A374	Partial (Moderate Sub-dominant)	ch. 53,350	Fen	Fen	Humus-iron podzols and alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (MG1a), surface water, grassland (U4a) and mire (M27a) located to the south of the A9 carriageway, between the B9152 and Highland Mainline railway near West Lodge. The habitat occurs over generally flat-lying ground just beyond the boundaries of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment), but outwith the River Spey floodplain. No evidence of groundwater supplying the area was identified during ecology surveys and the surrounding topography indicates that inputs of surface water via run-off are likely. Like other habitats in the area though, the underlying hydrogeology indicates a groundwater component cannot be entirely ruled out. Based on these considerations, dependence of the wet vegetation on this is therefore assessed to be moderate.	Moderate*	High
A379	High	ch. 51,150	Wet grassland	Marshy grassland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Mire (M23a) located to the south of the A9 carriageway within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Lynchat compartment). The habitat occurs over flat-lying ground at the edge of a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. The area is wholly within the floodplain of the River Spey, while deep silty and sandy peat >1.00m has been recorded across it and adjacent areas. Although the presence of deep peat and surrounding vegetation indicates association with an ombrogenous system, the area is likely to have formed as a result of flooding and groundwater inputs cannot be entirely ruled out based on the topographic setting and hydrogeology. Dependence on these however, is assessed to be no more than moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat also contains components of the floodplain mire (upland flushes, fens and swamps) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR.	Moderate	High
A381	Moderate	ch. 51,150	Wet grassland	Marshy grassland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of degraded blanket mire (M25c) located adjacent to the south of the existing A9 carriageway and partially comprising existing embankment to this. Resultantly, the habitat occurs over sloping ground at the edge of the Insh Marshes NNR (Lynchat compartment) and is likely to receive significant inputs of surface water via run-off (including from the existing A9). No evidence of groundwater supplying the area were identified during ecology surveys, but the underlying hydrogeology indicates that this cannot be ruled out. Dependence on groundwater is therefore assessed to be moderate.	Moderate	High
A382	High	ch. 51,150	Wet grassland	Marshy grassland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23b) located adjacent to the south of the existing A9 carriageway and partially comprising existing embankment to this. Resultantly, the habitat occurs over sloping ground at the edge of the Insh Marshes NNR (Lynchat compartment) and is likely to receive significant inputs of surface water via run-off (including from the existing A9). No evidence of groundwater supplying the area were identified during ecology surveys, but the underlying hydrogeology indicates that this cannot be entirely ruled out. Dependence on groundwater is therefore assessed to be moderate.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A386	High	ch. 51,900	Wet grassland Swamp	Marshy grassland Swamp	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Mire (M23a), swamp (S9a) and marshy grassland (MG9a) located to the south of the A9 carriageway at the base of an existing embankment for this. The habitat is located at the very edge of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment), occurring over flat-lying ground at the edge of a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. The area is wholly within the floodplain, and is likely to receive significant inputs from surface water via run-off from the embankment as well as adjacent pockets of deep peat. Groundwater inputs cannot be entirely ruled out based on the hydrogeology, but dependence on these is assessed to be no more than moderate in this setting. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat also contains components of the floodplain mire (upland flushes, fens and swamps and lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S9 and MG9 are also components of the vascular plant assemblage.	Moderate	High
A388	Moderate	ch. 51,850	Bog	Peat bog	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25a, M25c) located to the south of the A9 carriageway within the Insh Marshes NNR (Lynchat compartment). The habitat occurs over flat-lying ground at the edge of a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. The area is wholly within the floodplain of the River Spey, while deep silty and sandy peat >1.00m has been recorded across it and adjacent areas. Although the vegetation and presence of deep peat and indicates association with an ombrogenous system, the area is likely to have formed as a result of flooding and groundwater inputs cannot be entirely ruled out based on the hydrogeology. Dependence on these however, is assessed to be no more than moderate in this setting. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat may represent a component of the floodplain mire interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR.	Moderate	High
A389	High	ch. 51,800	Bog	Peat bog	Mineral alluvial soils with peaty alluvial soils and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Mire (M6a) and blanket mire (M25a) located to the south of the A9 carriageway at the fringes of and extending into the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). The habitat occurs over flat-lying ground at the edge of a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. The area is wholly within the floodplain of the River Spey, while deep silty and sandy peat >1.00m has been recorded across it and adjacent areas. Although the vegetation and presence of deep peat and indicates association with an ombrogenous system, the area is likely to have formed as a result of flooding and groundwater inputs cannot be entirely ruled out based on the hydrogeology. Dependence on these however, is assessed to be no more than moderate in this setting. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain and may represent components of the floodplain mire (upland flushes, fens and swamps) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR.	Moderate	High
A390	Moderate	ch. 51,900	Bog	Peat bog	Mineral alluvial soils with peaty alluvial soils and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Blanket mire (M25a, M25c) and mire (M6a) located to the south of the A9 carriageway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). The habitat occurs over flat-lying ground at the edge of a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland in the Scottish Wetland Inventory. The area is wholly within the floodplain of the River Spey, while deep silty and sandy peat >1.00m has been recorded across it and adjacent areas. Although the vegetation and presence of deep peat and indicates association with an ombrogenous system, the area is likely to have formed as a result of flooding and groundwater inputs cannot be entirely ruled out based on the hydrogeology. Dependence on these however, is assessed to be no more than moderate in this setting. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (upland flushes, fens and swamps) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A391	Partial (Moderate Sub-dominant)	ch. 52,000	Swamp Bog	Swamp Peat bog	Mineral alluvial soils with peaty alluvial soils and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Swamp (S9a), blanket mire (M25a, M25c) and mire (M6a) mosaic located to the south of the A9 carriageway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR near Balavil. The habitat occurs over flat-lying ground within a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. The area is wholly within the floodplain of the River Spey, while deep silty and sandy peat >1.00m has been recorded across it and adjacent areas. Although the vegetation and presence of deep peat and indicates association with an ombrogenous system, the area is likely to have formed as a result of flooding and groundwater inputs cannot be entirely ruled out based on the hydrogeology. Dependence on these however, is assessed to be no more than moderate in this setting. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen and upland flushes, fens and swamps) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S9 is also noted to be a component of the vascular plant assemblage.	Moderate	High
A392	Moderate	ch. 52,100	Wet woodland	Other wet woodland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W3) located to the south of the A9 carriageway within the Insh Marshes NNR (Lynchat compartment) and partially within the River Spey floodplain. The habitat occurs over sloping/ becoming flat ground at the base of an existing embankment to the A9 and is likely to receive inputs of surface water run-off. No evidence of groundwater supplying the area were observed during the ecology surveys, but the underlying and upslope hydrogeology indicate this cannot be entirely ruled out. The groundwater dependence for this habitat is therefore assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), NVC W3 is also noted to be a component of the vascular plant assemblage interest of the Insh Marshes NNR.	Moderate	High
A394	Moderate	ch. 51,450	Bog	Peat bog	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25a) located to the south of the A9 carriageway near Balavil and partially within the River Spey floodplain. The habitat occurs over generally flat-lying ground at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The area is underlain by shallow peat and peaty soils <0.50m thickness, and the topographic setting suggests it is likely to receive reasonable inputs of surface water run-off from adjacent sloping ground. No field observations of groundwater seepage were made during ecology surveys, but the indicated hydrogeology suggests this cannot be ruled out. Based on these considerations, dependence on groundwater inputs are assessed to be moderate.	Moderate	High
A395	Moderate	ch. 51,600	Wet heath Bog	Wet heath Peat bog	Mineral alluvial soils with peaty alluvial soils and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15a) and mire (M6d) located to the south of the A9 carriageway near Balavil and partially within the River Spey floodplain. The habitat occurs over generally flat-lying ground at the fringes and within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). The area is partially identified within the Scottish Wetland Inventory as a swamp and is almost entirely underlain by shallow peat, with deep silty and sandy peat >1.00m across its southern extent. Although the vegetation and presence of deep peat and indicates association with an ombrogenous system, the area is likely to have formed as a result of flooding and groundwater inputs cannot be entirely ruled out based on the hydrogeology. Dependence on these however, is assessed to be no more than moderate.	Moderate	High
A396	Moderate	ch. 51,450	Bog Wet heath	Peat bog Wet heath	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25a) and wet heath (M15b) located to the south of the A9 carriageway near Balavil and partially within the River Spey floodplain. The habitat occurs over generally flat-lying ground at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC, over shallow peat and peaty soils. The topographic setting suggests it is likely to receive reasonable inputs of surface water run-off from adjacent sloping ground and no field observations of groundwater seepage were made during ecology surveys. Notwithstanding, the indicated hydrogeology suggests this cannot be ruled out. Based on this and considerations for surrounding habitats, dependence on groundwater inputs for this habitat are assessed to be moderate.	Moderate	High
A398	Moderate	ch. 51,450	Wet heath Bog	Wet heath Peat bog	Humus-iron podzols and alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b), grassland (U4) and blanket mire (M25a) located to the south of the A9 carriageway near Balavil and partially within the River Spey floodplain. The habitat occurs over gently sloping ground at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC, over peaty soils <0.50m. The topographic setting suggests it is likely to receive reasonable inputs of surface water run-off from adjacent sloping ground and no field observations of groundwater seepage were made during ecology surveys. Notwithstanding, the indicated hydrogeology suggests this cannot be ruled out. Based on this and considerations for surrounding habitats, dependence on groundwater inputs are assessed to be moderate.	Moderate	High
A402	High	ch. 51,375	Wet grassland	Marshy grassland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23b) located to the south of the A9 carriageway near Balavil at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat occurs over gently sloping ground and is flanked by two drainage channels which may influence shallow groundwater levels. Owing to the topographic setting, the habitat is likely to receive reasonable inputs of surface water run-off and no evidence of groundwater seepage were observed during ecology surveys. As the hydrogeological setting suggest groundwater inputs cannot be entirely ruled out however, dependence of the habitat on these is assessed to be moderate.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A405	High	ch. 51,375	Bog Wet heath	Peat bog Wet heath	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M6d) and wet heath (M15b) located to the south east of the A9 carriageway near Kerrow at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat occurs over flat-lying ground and is flanked by a series of drainage channels which may control shallow groundwater. Owing to the surrounding topographic setting, the habitat is likely to receive reasonable inputs of surface water run-off and no evidence of groundwater seepage were observed during ecology surveys. However, as the hydrogeological setting suggest groundwater inputs cannot be entirely ruled out, dependence of the habitat on these is assessed to be moderate.	Moderate	High
A406	High	ch. 51,200	Bog	Peat bog	Mineral alluvial soils with peaty alluvial soils, humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M6d) located to the south east of the A9 carriageway near Kerrow at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat occurs over flat-lying ground and is flanked/ crossed by a series of drainage channels which may control shallow groundwater levels and no evidence of groundwater seepage was observed during ecology surveys. However, as the hydrogeological setting suggest groundwater inputs cannot be entirely ruled out, dependence of the habitat on these is assessed to be moderate.	Moderate	High
A407	Partial (High Sub-dominant)	ch. 51,200	Seepage/ flush/ spring	Seepage/ flush	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (U4b) and mire (M6d) located to the south of the A9 carriageway near Kerrow at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat occurs over generally flat-lying ground surrounding a residential property, but with local topographic depressions associated with cut drainage. The areas of mire are linear and occur within these depressions, associated with drainage and the habitat is otherwise dry acid grassland. Based on these considerations and with regard to the hydrogeology, the hydro-ecological setting suggests a more significant surface water component than groundwater. The sub-dominant mire vegetation is therefore considered to have a moderate dependence on groundwater inputs in this setting.	Moderate*	High
A415	High	ch. 51,150	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils, humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Alder woodland (W7a) located adjacent to the north of the Highland Mainline railway, between this and the B9152 near Kingussie. The habitat occurs in a topographic low point which is likely to receive surface water run-off from adjacent areas and was observed to be coincident with an issues shown on OS mapping – associated with drainage on the opposite side of the B9152. As the underlying and surrounding hydrogeology suggest a groundwater input cannot be ruled out however, dependence on this is assessed to be moderate in this setting.	Moderate	High
A416	High	ch. 50,850	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23a) located adjacent to the north of the Highland Mainline railway, between this and the B9152 near Kingussie. The habitat occurs in a topographic low point which is likely to receive surface water run-off from adjacent areas and is also coincident with some drainage channels which feed into the area. Based on these observations and the topographic setting, surface water appears likely to feed into the area and collect against the railway along the habitat boundary. The hydrogeological setting suggests groundwater inputs cannot be ruled out, with dependence on this assessed to be no more than moderate.	Moderate	High
A419	Partial (High Sub-dominant)	ch. 50,850	Seepage/ flush/ spring	Seepage/ flush	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (U4a) and mire (M6d) located to the north of the Highland Mainline railway, between this and the B9152 near Kingussie. The habitat occurs over generally flat-lying ground and was observed to be predominantly dry, with the wet mire vegetation occurring in association with two surface water drainage channels and an adjacent pond. The topographic setting and occurrence of the wet vegetation in association with the water features indicates a more significant surface water component than groundwater. However, this cannot be entirely ruled out based on the underlying hydrogeology. Based on these considerations, groundwater dependence of the sub-dominant mire vegetation is assessed to be no more than moderate.	Moderate*	High
A421	High	ch. 50,775	Wet woodland	Other wet woodland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Alder woodland (W7a) and local grassland (U4a) located at the base of sloping ground between the Highland Mainline railway and B9152. Owing to the topographic setting, the habitat is likely to receive significant inputs of surface water run-off from the surrounding area and is also observed to be flanked by a surface water drainage channel. While groundwater inputs cannot be entirely ruled out based on the underlying hydrogeology; dependence on these is assessed to be no more than moderate in this setting.	Moderate	High
A425	High	ch. 50,350	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23b) located on a low alluvial terrace to the north of the River Spey, near where this crosses under the existing A9 carriageway. The habitat occurs at the base of drier ground which slopes towards this, within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and wholly within the River Spey floodplain. The topographic setting suggests inputs of surface water from run-off and periodic flooding are likely, but the underlying and surrounding hydrogeology means groundwater inputs cannot be ruled out and the water table is likely to be shallow. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A426	Moderate	ch. 50,800	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) and mire (M23b) located to the south of the Highland Mainline railway, within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and wholly within the River Spey floodplain. The habitat occurs over flat-lying ground adjacent to a drainage channel and is identified as montane/ wet grassland in the Scottish Wetland Inventory. No evidence of groundwater supplying the area was observed during ecology surveys, but the underlying hydrogeology indicates that this cannot be ruled out and the water table is likely to be shallow. Groundwater dependence is assessed to be moderate.	Moderate	High
A426	Moderate	ch. 50,650	Wet grassland	Marshy grassland	Glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) and mire (M23b) located to the south of the Highland Mainline railway, within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and wholly within the River Spey floodplain. The habitat occurs over flat-lying ground adjacent to a drainage channel and is identified as montane/ wet grassland in the Scottish Wetland Inventory. No evidence of groundwater supplying the area was observed during ecology surveys, but the underlying hydrogeology indicates that this cannot be ruled out and the water table is likely to be shallow. Groundwater dependence is assessed to be moderate.	Moderate	High
A430	Moderate	ch. 50,300	Wet grassland	Marshy grassland	Alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) and grassland (U4b) located on a low alluvial terrace to the north of the River Spey, near where this crosses under the existing A9 carriageway. The habitat is identified as marshy/ wet grassland in the Scottish Wetland Inventory and occurs along the banks of the River Spey, wholly within its flood extents and in the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Ruthven compartment). The location of the habitat suggests contributions of surface water via the river and periodic flooding of this are likely, but the underlying and surrounding hydrogeology also suggests groundwater inputs cannot be ruled out. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
A435	High	ch. 50,100	Wet grassland Swamp	Marshy grassland Swamp	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23b) and swamp (S9a) within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Ruthven compartment). The habitat is wholly within the River Spey floodplain and occurs over flat-lying ground adjacent to the Burn of Ruthven – just south of its confluence with the River Spey. The area is not mapped within the Scottish Wetland Inventory, but forms part of an apparent ox-bow wetland round Ballochbuie Island (created due to an adjacent flood bund). Its location suggests that contributions of surface water via the adjacent watercourses from periodic flooding may be likely. However, the underlying and surrounding hydrogeology also suggest groundwater inputs cannot be ruled out. Groundwater dependence is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S9 is also noted to be a component of the vascular plant assemblage.	Moderate	High
A437	High	ch. 50,350	Wet grassland Swamp	Marshy grassland Swamp	Mineral alluvial soils with peaty alluvial soils and alluvium/ alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23b), rush pasture (MG10a) and swamp (S9a) located on a low alluvial terrace to the east of the River Spey, near Ballochbuie Island and within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Ruthven compartment) and wholly within the River Spey floodplain. The topographic setting suggests inputs of surface water from periodic flooding are likely, but the underlying and surrounding hydrogeology means groundwater inputs cannot be ruled out and the water table is likely to be shallow. Based on these considerations, groundwater dependence is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S9 is also noted to be a component of the vascular plant assemblage.	Moderate	High
A438	Moderate	ch. 50,400	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium/ alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of marshy grassland (MG9a) located on flat-lying ground to the east of the River Spey, near Ballochbuie Island and within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Ruthven compartment) and wholly within the River Spey floodplain. The topographic setting suggests inputs of surface water from periodic flooding are likely, but the underlying and surrounding hydrogeology also suggests groundwater inputs cannot be entirely ruled out and the water table is likely to be shallow. Based on these considerations, groundwater dependence is assessed to be moderate. NVC MG9 is also noted to be a component of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A439	Partial (High Sub-dominant)	ch. 50,300	Swamp Wet grassland	Swamp Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium/ alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of swamp (S9a), mire (M23b) and grassland (U4b) located on flat-lying ground to the east of the River Spey, near Ballochbuie Island and within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Ruthven compartment) and wholly within the River Spey floodplain. The topographic setting suggests inputs of surface water from periodic flooding are likely, but the underlying and surrounding hydrogeology also suggest groundwater inputs cannot be entirely discounted and the water table is likely to be shallow. Based on these considerations, groundwater dependence of the sub-dominant mire vegetation is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S9 is also noted to be a component of the vascular plant assemblage.	Moderate*	High
A440	Moderate	ch. 50,200	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of marshy grassland (MG9a) and grassland (U4b) located on flat-lying ground to the east of the Burn of Ruthven, near Ballochbuie Island, within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Ruthven compartment) and wholly within the River Spey floodplain. The topographic setting suggests inputs of surface water from periodic flooding are likely, but the underlying and surrounding hydrogeology also suggests groundwater inputs cannot be entirely ruled out and the water table is likely to be shallow. Based on these considerations, groundwater dependence is assessed to be moderate. NVC MG9 is also noted to be a component of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High
A441	Moderate	ch. 50,100	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of marshy grassland (MG9a) located on flat-lying ground adjacent to the east of the Burn of Ruthven, near Ballochbuie Island, within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Ruthven compartment) and wholly within the River Spey floodplain. The topographic setting suggests inputs of surface water from periodic flooding are likely, but the underlying and surrounding hydrogeology also suggests groundwater inputs cannot be entirely ruled out and the water table is likely to be shallow. Based on these considerations, groundwater dependence is assessed to be moderate. NVC MG9 is also noted to be a component of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High
A442	Moderate	ch. 49,900	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of marshy grassland (MG9a) and grassland (U4b) located on flat-lying ground to the east of the Burn of Ruthven, near Ballochbuie Island, within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Ruthven compartment) and wholly within the River Spey floodplain. The topographic setting suggests inputs of surface water from periodic flooding are likely, but the underlying and surrounding hydrogeology also suggests groundwater inputs cannot be entirely ruled out and the water table is likely to be shallow. Based on these considerations, groundwater dependence is assessed to be moderate. NVC MG9 is also noted to be a component of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Moderate	High
A443	High	ch. 50,050	Wet grassland Swamp	Marshy grassland Swamp	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23b) and swamp (S11a, S9a) located adjacent to the east of the existing A9 carriageway, within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Ruthven compartment). The habitat is wholly within the River Spey floodplain and occurs over flat-lying ground near the Burn of Ruthven – just south of its confluence with the River Spey. The area is not mapped within the Scottish Wetland Inventory, but forms part of an apparent ox-bow wetland round Ballochbuie Island (created due to an adjacent flood bund). Its location suggests that contributions of surface water via the adjacent watercourses and from flooding are likely. However, the underlying and surrounding hydrogeology also suggest groundwater inputs cannot be ruled out and the water table will inevitably be shallow. Groundwater dependence is therefore assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S9 is also noted to be a component of the vascular plant assemblage.	Moderate	High
A444	Moderate	ch. 50,050	Wet grassland Swamp	Marshy grassland Swamp	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of marshy grassland (MG9a) and swamp (S11a, S9a) located to the east of the existing A9 carriageway, within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Ruthven compartment). The habitat is wholly within the River Spey floodplain and the topographic setting suggests inputs of surface water from periodic flooding are likely, but the underlying and surrounding hydrogeology also suggests groundwater inputs cannot be entirely ruled out. Based on these considerations, groundwater dependence is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC MG9, S11 and S9 are also noted to be components of the vascular plant assemblage.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A445	High	ch. 50,000	Wet grassland Swamp	Marshy grassland Swamp	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23b) and swamp (S11a) located adjacent to the east of the existing A9 carriageway, within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Ruthven compartment). The habitat is wholly within the River Spey floodplain and occurs over flat-lying ground adjacent to the flood bund present around Ballochbuie Island. The area is not mapped within the Scottish Wetland Inventory, but its setting suggests receipt and retention of surface water via flooding may be periodically likely. However, the underlying and surrounding hydrogeology also suggest groundwater inputs cannot be ruled out and the water table is likely to be shallow. Groundwater dependence is therefore assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen and upland flushes, fens and swamps) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S11 is also noted to be a component of the vascular plant assemblage interests.	Moderate	High
A446	Partial (High Sub-dominant)	ch. 49,750	Swamp Wet grassland	Swamp Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of swamp (S9a) and sub-dominant mire (M23b) located to the south east of the existing A9 carriageway, within the Insh Marshes NNR (Ruthven compartment). The habitat is wholly within the River Spey floodplain, so is likely to receive surface water inputs from periodic flooding, and occurs over flat-flying ground in association with a cut drainage channel in a wider area of wet grassland and mire (polygon A457). No evidence of groundwater seepage was observed during ecology surveys, but the hydrogeological setting suggests inputs from this cannot be entirely ruled out. Groundwater dependence is of the sub-dominant mire (M23b) is therefore assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S9 is also noted to be a component of the vascular plant assemblage.	Moderate*	High
A448	High	ch. 49,575	Swamp Wet grassland	Swamp Marshy grassland	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of swamp (S11a, S9a) and mire (M23b, M27a) located to the south east of the A9 carriageway at the fringes of and partially within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Ruthven compartment). The habitat is wholly within the River Spey floodplain, so is likely to receive surface water inputs from periodic flooding, as well as run-off from the adjacent mound on which Ruthven Barracks stands. However, water was observed directly supplying the habitat, emerging from beneath the adjacent B970 during field surveys. Inputs of surface water may be significant, but association of the dominant S11a and M23b vegetation with a direct apparent groundwater supply means dependence on this is assessed to be high. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S11 and S9 are also noted to be components of the vascular plant assemblage.	High	Very High
A450	High	ch. 49,450	Wet grassland Swamp	Marshy grassland Swamp	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23a) and swamp (S10b) located to the south east of the A9 carriageway at the fringes of and partially within the Insh Marshes NNR (Ruthven compartment). The habitat is wholly within the River Spey floodplain, so is likely to receive surface water inputs from periodic flooding, as well as run-off from the adjacent mound on which Ruthven Barracks stands. However, water was also observed supplying similar habitats in the vicinity, with this emerging from beneath the adjacent B970 during field surveys. Inputs of surface water may be significant, but association of the dominant M23a vegetation with a direct apparent groundwater supply means dependence on this is assessed to be high. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (upland flushes, fens and swamps and lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S10 is also a component of the vascular plant assemblage.	High	Very High
A455	High	ch. 49,300	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W7a) located on flat-lying ground to the south east of the A9 carriageway at the edge of the Insh Marshes NNR (Ruthven compartment). The habitat is wholly within the River Spey floodplain, so is likely to receive surface water inputs from periodic flooding as a result. The area is not mapped within the Scottish Wetland Inventory and no evidence of groundwater supplying the habitat was observed during ecology surveys. The underlying and surrounding hydrogeology however, suggest groundwater inputs cannot be ruled out. Groundwater dependence is therefore assessed to be no more than moderate in this setting.	Moderate	High
A456	High	ch. 49,300	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W7a) located on flat-lying ground to the south east of the A9 carriageway at the base of an existing embankment for this and within the Insh Marshes NNR (Ruthven compartment). The habitat is wholly within the River Spey floodplain, so is likely to receive surface water inputs from periodic flooding, as well as run-off from the adjacent embankment. The area is not mapped within the Scottish Wetland Inventory and no evidence of groundwater supplying the habitat was observed during ecology surveys. The underlying and surrounding hydrogeology however suggest groundwater inputs cannot be ruled out. Groundwater dependence is therefore assessed to be no more than moderate in this setting.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A457	Moderate	ch. 49,700	Wet grassland Swamp	Marshy grassland Swamp	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of marshy grassland and rush pasture (MG9a, MG10a), grassland (U4b) with local mire (M23a) and swamp (S9a) on flat-lying ground adjacent to the south east of the existing A9 approach embankment to the River Spey bridge within the Insh Marshes NNR (Ruthven compartment). The habitat is wholly within the River Spey floodplain. The topographic setting suggests inputs of surface water from periodic flooding are likely, but the underlying and surrounding hydrogeology also suggests groundwater inputs be entirely ruled out. Based on these considerations, groundwater dependence of the wet vegetation is assessed to be no more than moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (upland flushes, fens and swamps and lowland fen) interest feature of the Insh Marshes NNR. NVC MG9 and S9 are also noted to be components of the vascular plant assemblage.	Moderate	High
A458	Partial (High Sub-dominant)	ch. 49,350	Wet grassland Swamp	Marshy grassland Swamp	Mineral alluvial soils with peaty alluvial soils and alluvium/ alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (U4b), marshy grassland (MG9a, MG10a), mire (M23a) and swamp (S9a) located on flat-lying ground to the south east of the A9 carriageway at the base of an existing embankment for this and within the Insh Marshes NNR (Ruthven compartment). The habitat is wholly within the River Spey floodplain, so is likely to receive surface water inputs from periodic flooding, as well as run-off from the adjacent embankment. The area is not mapped within the Scottish Wetland Inventory and no evidence of groundwater supplying the habitat was observed during ecology surveys. The underlying and surrounding hydrogeology however, suggest groundwater inputs cannot be ruled out. Groundwater dependence is therefore assessed to be no more than moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (upland flushes, fens and swamps and lowland fen) interest feature of the Insh Marshes NNR. NVC MG9 and S9 are also noted to be components of the vascular plant assemblage.	Moderate*	High
A461	Moderate	ch. 49,200	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Linear area of rush pasture (MG10a) located near Ruthven Farm. The habitat occurs over sloping ground and was observed to be distinctly associated with a drainage line in the area during ecology surveys, which may possibly be a remnant of a former private water supply to the properties nearby here (Ruthven Cottage and Ruthven Farm). These observations and the topographic setting suggest that inputs of surface water are likely to be significant, but a groundwater component also cannot be ruled out based on the indicated hydrogeology. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
A462	Partial (High Sub-dominant)	ch. 49,100	Wet grassland Swamp	Marshy grassland Swamp	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (U4b) with local fragmented mire (M23b) and swamp (S10b) located on sloping ground near Ruthven Farm. The wet vegetation distinctly occurs along cut drainage in the area and is associated with ponded wetter areas adjacent to the military road, suggesting a more significant surface water component than groundwater – though the underlying hydrogeology indicates inputs from this cannot be discounted. Based on these considerations, groundwater dependence of the sub-dominant wet vegetation is assessed to be no more than moderate.	Moderate*	High
A463	Moderate	ch. 49,050	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) located in a topographic low adjacent to General Wade's Military Road near Ruthven Farm. The vegetation is associated with ponded wetter areas adjacent to the military road, suggesting a more significant surface water component than groundwater – though the underlying hydrogeology indicates inputs from this cannot be discounted. Based on these considerations, groundwater dependence of the vegetation is assessed to be no more than moderate.	Moderate	High
A464	Moderate	ch. 48,900	Wet grassland	Marshy grassland	Humus-iron podzols with peaty podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) located adjacent to plantation woodland near the Braes of Ruthven, south of the existing A9 carriageway. The habitat occurs over sloping ground and no evidence of groundwater seepage observed during the ecology surveys. Owing to the topographic setting, the habitat is likely to receive reasonable inputs of surface water run-off from adjacent higher ground, but the underlying hydrogeology also suggests groundwater inputs cannot be entirely ruled out. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
A482	Moderate	ch. 48,625	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Small area of rush pasture (MG10a) located within a wider area of drier grassland (U4b) near Ruthven Cottage. The habitat occurs over sloping ground and no evidence of a groundwater component were observed supplying the area during ecology surveys. Owing to the topographic setting, the habitat is likely to receive reasonable inputs of surface water run-off from adjacent higher ground, but the underlying hydrogeology also suggests groundwater inputs cannot be entirely ruled out. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
A491	High	ch. 47,950	Seepage/ flush/ spring	Other spring	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M10a) located at the base of sloping ground to the south of the existing A9 carriageway near Lochan an Tairbh and Torr Buidhe woodland. The habitat occurs at the confluence of two glacial meltwater channels in the area and downslope of a wet heath/ mire mosaic. No groundwater emergence was observed during ecology surveys, but based on the hydrogeological and ecological context, this community is considered to be GWDTE with a high dependence on groundwater input.	High	Very High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A492	Moderate	ch. 47,900	Wet heath Bog	Wet heath Peat bog	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b), blanket mire (M25a) and patchy dry heath (H12a) located on sloping ground to the south of the existing A9 carriageway near Lochan an Tairbh and Torr Buidhe woodland. Owing to the topographic setting, the habitat is likely to receive significant inputs of surface water run-off from adjacent higher ground. No evidence of groundwater emergence was observed during ecology surveys, but the underlying hydrogeology suggests groundwater inputs cannot be ruled out. Based on the surrounding ecological context (including occurrence of M10 vegetation downslope), groundwater dependence is therefore assessed to be moderate.	Moderate	High
A493	Moderate	ch. 47,700	Bog	Peat bog	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25a) located to the south of the A9 carriageway and adjacent to the east of Torr Buidhe woodland. The habitat occurs on flat-lying ground at the base of steep slopes and is likely to receive significant inputs of surface water run-off as a result. No evidence of a direct groundwater supply to the area was observed during ecology surveys. However, groundwater emergence and seepages have been observed in the immediate surrounding area. Combined with the underlying hydrogeology, groundwater dependence of this habitat is therefore assessed to be moderate.	Moderate	High
A499	High	ch. 47,425	Bog	Peat bog	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M6a) and blanket mire (M25a) to the south of the existing A9 carriageway near Torr Buidhe woodland. The habitat occurs within a linear topographic depression on a gently sloping hillside and was observed to be associated with a spring further distanced from the upslope extent. Based on these considerations and the underlying hydrogeology, the habitat is considered to represent GWDTE with a high dependence on groundwater input.	High	Very High
A501	Moderate	ch. 47,350	Bog Seepage/ flush/ spring	Peat bog Other spring	Humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b), blanket mire (M25a) and mire (M10a) adjacent to the Burn of Inverton, south of the existing A9 carriageway near Drumnanoich. The habitat occurs over flatter ground at the base of steeper slopes, indicating is likely to receive reasonable inputs of surface water run-off. No groundwater emergence was observed during ecology surveys. However, based on the hydrogeological and ecological context, this habitat is considered to be GWDTE due to the presence of M10a in association with other wet vegetation types, with dependence on groundwater inputs assessed as moderate/ high.	Moderate/ High	High/ Very High
A511	Partial (Moderate Sub-dominant)	ch. 47,750	Wet grassland	Marshy grassland	Humus-iron podzols and alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (U4a) and marshy grassland (MG9a) located in a topographic depression amongst hummocky ground south of the existing A9 carriageway near Lochan an Tairbh and Torr Buidhe woodland. Owing to the topographic setting, the habitat is likely to receive significant inputs of surface water run-off from adjacent higher ground and the existing carriageway. No evidence of groundwater emergence was observed during ecology surveys, but the underlying hydrogeology suggests groundwater inputs cannot be ruled out. Based on the surrounding ecological context (including occurrence of M10 further upslope), groundwater dependence is therefore assessed to be moderate.	Moderate*	High
A522	High	ch. 47,150	Wet grassland	Marshy grassland	Humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Large area of mire (M23a) and grassland (U4a) located adjacent to the south of the existing A9 near Drumnanoich. The habitat occurs over low and flat-lying ground and is surrounded by a wider rush pasture, mire and grassland mosaic within the flood extents of the Burn of Inverton – suggesting inputs of surface water from periodic flooding are likely. No evidence of groundwater emergence was observed during ecology surveys, but the underlying hydrogeology suggests groundwater inputs cannot be ruled out. Based on the these considerations, groundwater dependence is therefore assessed to be moderate.	Moderate	High
A524	High	ch. 47,000	Wet grassland Seepage/ flush/ spring	Marshy grassland Seepage/ flush	Humus-iron podzols and alluvium deposits overlying Falls of Phones Semipelite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Large expanse of mire (M23a, M6a, M6d) and grassland (U4a) located adjacent to the south of the existing A9 near Drumnanoich. The habitat occurs over a large area of low and flat-lying ground within the flood extents of the Burn of Inverton – suggesting inputs of surface water from periodic flooding as well as adjacent ground may be likely. No evidence of groundwater emergence was observed in the area during ecology surveys, but the underlying hydrogeology suggests groundwater inputs cannot be ruled out. Based on the these considerations, groundwater dependence is therefore assessed to be no more than moderate in this setting.	Moderate	High
A537	Partial (High Sub-dominant)	ch. 46,050	Swamp	Swamp	Humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of aquatic vegetation (A24) with swamp (S19a, S11a) occurring in a topographic hollow amongst hummocky surroundings some distance to the south of the existing A9 carriageway near the Milton of Nuide. Although the topographic setting suggests surface water run-off inputs to the habitat are likely, it is noted to be one of a few habitat areas of this nature in the vicinity, occurring alongside and adjacent to an apparent spring line. Combined with the underlying hydrogeology, the sub-dominant S11a vegetation is therefore considered to be GWDTE with a high dependence on groundwater in this setting.	High*	Very High
A543	Moderate	ch. 45,500	Wet heath Seepage/ flush/ spring	Wet heath Seepage/ flush	Humus-iron podzols with peaty podzols and ardverikie till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b) and mire (M6a) located to the south of the A9 carriageway near Nuide. The habitat occurs over gently sloping ground and is coincident with the flow lines and direction of the Allt Eoghainn watercourse in the area. The occurrence of the vegetation in association with the watercourse flow lines and the local topography suggest reasonable inputs of surface water and run-off are likely. However, the underlying and surrounding hydrogeology and ecology also suggest groundwater inputs cannot be ruled out. Based on these considerations, groundwater dependence is therefore assessed to be moderate.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A560	Moderate	ch. 44,500	Wet heath Bog	Wet heath Peat bog	Humus-iron podzols with peaty podzols peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Large area of wet heath (M15b), blanket mire (M25a) and local dry heath (H12a) occurring over steeply sloping ground to the south of the A9 carriageway near Ralia Moss. The habitat occurs over peaty soils <0.50m thickness and is affected by the presence of cut drainage channels and grouse butts within it. No evidence of groundwater supplying the habitat was observed during ecology surveys and the topographic and hydrogeological setting suggest more significant inputs of surface water run-off than groundwater. Based on these considerations, groundwater dependence of this habitat is therefore assessed to be no more than low.	Low	Medium
A564	High	ch. 44,600	Wet woodland	Other wet woodland	Humus-iron podzols with peaty podzols peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W4, W11d) located on steeply sloping ground adjacent to the south of the existing A9 carriageway near Ralia Moss. No evidence of groundwater supplying the habitat was observed during ecology surveys and the topographic and hydrogeological setting suggest inputs of surface water run-off are likely to be more significant than groundwater, though this was observed at relatively shallow depths in this area. Based on the considerations, groundwater dependence of this habitat is therefore assessed to be moderate.	Moderate	High
A569	Moderate	ch. 43,200	Wet heath	Wet heath	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b) adjacent to the south of the A9 carriageway near the existing Newtonmore junction. The habitat occurs over flat topography in a topographic basin, with peat depths generally >1.00m (as evidenced from peat probing and ground investigation information). The indicated hydrogeology does not suggest a groundwater component and there were no indications of this supplying the area during ecology surveys. Based on these considerations and owing to the topographic setting, the habitat is considered to be part of a more ombrotrophic system in this setting and is unlikely to represent GWDTE.	None	Low
A570	High	ch. 42,950	Seepage/ flush/ spring	Seepage/ flush	Humus-iron podzols and ardverikie till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Localised area of mire (M6a) situated to the south of the A9 carriageway near the existing Newtonmore junction. The habitat occurs in a shallow topographic basin amongst hummocky/ sloping ground and predominantly drier grassland vegetation types. The underlying hydrogeology does not suggest a groundwater component and this was supported by the lack of any obvious groundwater seepage during ecology surveys. The occurrence of this vegetation within topographic basins and overlying lower productivity geology, indicates a more significant surface water component than groundwater. In this setting, groundwater dependence is therefore assessed to be no more than low.	Low	Medium
A573	Moderate	ch. 43,450	Bog Wet heath	Peat bog Wet heath	Humus-iron podzols and ardverikie till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25a) and wet heath (M15b) located adjacent to the south of the A9 carriageway near the existing Newtonmore junction. The habitat occurs over flat-lying ground in a topographic low, with peat depths generally >1.00m (as evidenced from peat probing and ground investigation information). The hydrogeology does not suggest a groundwater component and there were no indications of this supplying the area during ecology surveys, although an issues (cut drainage as opposed to upwelling) from the area is identifiable on OS mapping. Based on these considerations and the topographic setting, the habitat is considered to be part of a more ombrotrophic system, with more significant surface water components than groundwater. It is unlikely to represent GWDTE.	None	Low
A574	Moderate	ch. 43,350	Wet heath	Wet heath	Humus-iron podzols and ardverikie till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b) located on steeply sloping ground to the south of the A9 carriageway near the existing Newtonmore junction. Pockets of shallow peat >0.50m were recorded within the habitat area, which occurs directly downslope of Ralia Moss and larger areas of deep peat >1.00m within that. The hydrogeology does not suggest a groundwater component and there were no indications of this supplying the area during field surveys. Based on these considerations and the topographic setting, the habitat is considered to be directly dependent on surface water run-off from the upslope ombrotrophic system at Ralia Moss, which would naturally drain across this location. This is not considered to represent GWDTE in this setting.	None	Low
A575	High	ch. 43,350	Seepage/ flush/ spring	Seepage/ flush	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M6d) located adjacent to the south of the A9 carriageway near the existing Newtonmore junction. The vegetation was distinctly observed to occur in association with a drainage channel associated with the road and in a relative topographic low as a result. The occurrence of this vegetation in this setting indicates a more significant surface water component than groundwater. Based on these considerations and the immediately adjacent hydrogeology and ecology, groundwater dependence is assessed to be low.	Low	Medium
A583	High	ch. 42,850	Seepage/ flush/ spring	Seepage/ flush	Humus-iron podzols and ardverikie till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M6a) located to the south of the A9 near the existing Newtonmore junction. The habitat was observed to occur in a linear topographic depression on a steeply sloping hillside, immediately downslope of areas of deep peat. The underlying hydrogeology does not suggest a groundwater component and this was supported by the lack of any obvious groundwater seepage during ecology surveys. The occurrence of the vegetation in this setting and overlying lower productivity geology, indicates the habitat likely to be moreso dependent on surface water run-off from the upslope areas. Groundwater dependence is therefore assessed to be no more than low.	Low	Medium

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A587	High	ch. 42,750	Bog	Peat bog	Humus-iron podzols and ardverikie till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M6a) adjacent to the south of the A9 carriageway near the existing Newtonmore junction. The habitat occurs over flat topography in a topographic low, with peat depths generally >0.50 or 1.00m (as evidenced from peat probing and ground investigation information). The indicated hydrogeology does not suggest a groundwater component and there were no indications of this supplying the area during ecology surveys. The occurrence of this vegetation in this topographic setting and overlying lower productivity geology, indicates a more significant surface water component than groundwater. In this setting, groundwater dependence is therefore assessed to be no more than low.	Low	Medium
A588	Partial (Moderate Sub-dominant)	ch. 42,750	Bog	Peat bog	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of dry heath (H12a), blanket mire (M25a) and grassland (U4a) located to the south of the A9 carriageway near the existing Newtonmore junction. The habitat occurs over sloping topography, immediately downslope of areas of deep peat. The habitat is likely to be part of a wider ombrotrophic system in this setting, receiving run-off from upslope adjacent areas. The underlying hydrogeology does not suggest a groundwater component and this was also supported by the lack of any obvious seepage during ecology surveys. Any potential dependence of the sub-dominant mire (M25a) vegetation on a groundwater component in this setting is therefore considered to be no more than low.	Low	Medium
A589	High	ch. 42,700	Seepage/ flush/ spring	Seepage/ flush	Humus-iron podzols and ardverikie till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of mire flushing (M6a) located to the south of the A9 carriageway near the existing Newtonmore junction. The habitat was observed to occur within a large linear topographic depression on a sloping hillside, immediately downslope of areas of deep peat. The underlying hydrogeology does not suggest a groundwater component and this was supported by the lack of any obvious groundwater seepage during ecology surveys. The occurrence of the vegetation in this setting and overlying lower productivity geology, indicates a more significant surface water component than groundwater. In this setting, groundwater dependence is therefore assessed to be no more than low.	Low	Medium
A591	Moderate	ch. 42,700	Bog	Peat bog	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25a) and dry heath (H12a) located to the south of the A9 carriageway near the existing Newtonmore junction. The habitat was observed to occur over sloping ground underlain by and adjacent to areas of shallow and deep peat. The underlying hydrogeology does not suggest a groundwater component and this was supported by the lack of any obvious groundwater seepage during ecology surveys. Based on these considerations and the topographic setting, the habitat is considered to be part of a more ombrotrophic system, with more significant surface water components than groundwater. It is unlikely to represent GWDTE.	None	Low
A594	Moderate	ch. 42,500	Bog	Peat bog	Humus-iron podzols and hummocky (moundy) glacial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25a) located to the south of the A9 carriageway near the existing Newtonmore junction. The habitat was observed to occur over sloping ground underlain by and adjacent to areas of shallow and deep peat. The underlying hydrogeology does not suggest a groundwater component and this was supported by the lack of any obvious groundwater seepage during ecology surveys. Based on these considerations and the topographic setting, the habitat is considered to be part of a more ombrotrophic system, with more significant surface water components than groundwater. It is unlikely to represent GWDTE.	None	Low
A597	Moderate	ch. 42,625	Bog	Peat bog	Humus-iron podzols and hummocky (moundy) glacial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25a) and dry heath (H12a) located to the south of the A9 carriageway near the existing Newtonmore junction. The habitat was observed to occur in a topographic low underlain by and adjacent to areas of shallow peat. The topographical setting suggests it is likely to receive reasonable inputs of surface water run-off from the adjacent sloping ground and the published hydrogeology was supported by the lack of any field observations of groundwater seepage during ecology surveys. Based on these considerations, dependence on groundwater inputs for this habitat are assessed to be low.	Low	Medium
A601	Moderate	ch. 41,800	Wet heath	Wet heath	Humus-iron podzols with peaty podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b) on gently sloping ground between two breaks in slope, to the south east of the existing A9 carriageway near Ralia. The area occurs over shallow peat >0.50m, with a pocket of deeper peat >1.00m in its central area. The topographical setting suggests it is likely to receive reasonable inputs of surface water run-off from the adjacent sloping ground and the published hydrogeology was supported by the lack of any field observations of groundwater seepage during ecology surveys. A spring-source for the Allt Torr an Daimh watercourse was observed to occur immediately adjacent to the habitat however, suggesting groundwater inputs as well as surface water run-off are possible. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
A602	High	ch. 42,050	Wet woodland	Other wet woodland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Small strip of wet woodland (W7a) located to the south east of the existing A9 near Ralia and running alongside the Allt Torr an Daimh watercourse. The habitat occurs over steeply sloping ground adjacent to the watercourse and is likely to receive significant inputs of surface water run-off. The underlying hydrogeology does not suggest a groundwater component and no observations of groundwater directly supplying the area were observed during ecology surveys. It is noted however that the Allt Torr an Daimh appears to be spring-fed and emerges approximately 40m upslope of the habitat, suggesting inputs of groundwater cannot be entirely ruled out. Based on these considerations, dependence on groundwater inputs is assessed to be moderate.	Moderate	High

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A609	Moderate	ch. 41,825	Bog	Peat bog	Humus-iron podzols with peaty podzols and hummocky (moundy) glacial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of degraded blanket mire (M25a) on gently sloping ground between two breaks in slope, to the south east of the existing A9 carriageway near Ralia. The area occurs predominantly shallow peat and peaty soils, and is located downgradient of polygon A601. The topographical setting suggests it is likely to receive reasonable inputs of surface water run-off and the underlying hydrogeology does not suggest a groundwater component. A spring-source for the Allt Torr an Daimh watercourse was observed to occur within the habitat however, suggesting groundwater inputs as well as surface water run-off are likely. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
A614	Partial (High Sub-dominant)	ch. 41,250	Wet grassland	Marshy grassland	Humus-iron podzols with peaty podzols and ardverikie till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of dry heath (H12a) and mire (M23b) located adjacent to the south east of the existing A9 carriageway near Invernahavon. The habitat occurs within a topographic basin immediately adjacent to the existing road and coincident with an underpass. The hydrogeological setting does not suggest a groundwater component and the topographic setting suggests that surface water run-off is more likely to collect at this location due to modifications in ground level associated with the underpass. The habitat is unlikely to represent GWDTE in this setting.	None	Low
A619	Moderate	ch. 41,600	Wet heath	Wet heath	Humus-iron podzols with peaty podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b) on gently sloping ground between two breaks in slope, to the south east of the existing A9 carriageway near Ralia. The area occurs predominantly over shallow peat >0.50m, with deeper peat >1.00m adjacent to the east. The topographical setting suggests it is likely to receive reasonable inputs of surface water run-off from the adjacent sloping ground, while the underlying hydrogeology does not suggest a groundwater component – which was supported by the lack of any field observations of groundwater seepage during ecology surveys. Based on these considerations, dependence on groundwater inputs for this habitat are assessed to be low.	Low	Medium
A622	Moderate	ch. 41,500	Bog	Peat bog	Humus-iron podzols with peaty podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25a, M17a) located on gently sloping ground between two breaks in slope, to the south east of the existing A9 carriageway near Ralia. The area occurs predominantly over shallow peat >0.50m, with pockets of adjacent deeper peat >1.00m. The topographical setting suggests it is likely to receive reasonable inputs of surface water run-off from the adjacent sloping ground, while the underlying hydrogeology does not suggest a groundwater component – which was supported by the lack of any field observations of groundwater seepage during ecology surveys. Based on these considerations, dependence on groundwater inputs for this habitat are assessed to be low.	Low	Medium
A640	High	ch. 40,750	Seepage/ flush/ spring	Seepage/ flush	Humus-iron podzols with peaty podzols and ardverikie till deposits overlying Gaick Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and low (fracture flow) in bedrock.	Linear area of mire (M6a) to the east of the existing A9 carriageway near Ralia. The habitat occurs in a topographic depression between two lines of grouse butts, immediately downslope of and amongst areas of deep peat. The indicated hydrogeology does not suggest a groundwater component and there were no indications of this supplying the area during ecology surveys. The occurrence of the vegetation in this setting and overlying lower productivity geology, therefore indicates a more significant surface water component than groundwater, within a locally wider ombrotrophic system. In this setting, groundwater dependence is assessed to be no more than low.	Low	Medium
A640	High	ch. 40,700	Seepage/ flush/ spring	Seepage/ flush	Humus-iron podzols with peaty podzols and ardverikie till deposits overlying Gaick Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and low (fracture flow) in bedrock.	Linear area of mire (M6a) to the east of the existing A9 carriageway near Ralia. The habitat occurs in a topographic depression between two lines of grouse butts, immediately downslope of and amongst areas of deep peat. The indicated hydrogeology does not suggest a groundwater component and there were no indications of this supplying the area during ecology surveys. The occurrence of the vegetation in this setting and overlying lower productivity geology, therefore indicates a more significant surface water component than groundwater, within a locally wider ombrotrophic system. In this setting, groundwater dependence is assessed to be no more than low.	Low	Medium
A645	Moderate	ch. 40,500	Bog	Peat bog	Humus-iron podzols with peaty podzols and ardverikie till deposits overlying Gaick Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Linear area of blanket mire (M25a) located to the south east of the existing A9 carriageway near Ralia. The habitat occurs in a linear topographic depression, immediately downslope of and amongst areas of shallow and deep peat. The indicated hydrogeology does not suggest a groundwater component and there were no indications of this supplying the area during ecology surveys. Owing to the topographic setting, the habitat is likely to receive significant inputs of surface water run-off within a locally wider ombrotrophic system. Groundwater dependence is therefore assessed to be no more than low.	Low	Medium
A646	High	ch. 40,500	Wet woodland	Other wet woodland	Humus-iron podzols and ardverikie till deposits overlying Gaick Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Small pocket of woodland (W4) located to the south east of the existing A9 carriageway near Ralia. The habitat occurs at the base of a linear topographic depression, immediately downslope of and amongst areas of shallow and deep peat. The indicated hydrogeology does not suggest a groundwater component and while local faulting in the area may be associated with an increase in groundwater supply from fractured bedrock, no springs or seepages were observed. Owing to the topographic setting, the habitat is likely to receive significant inputs of surface water run-off moreso than groundwater, with dependence in this setting therefore considered to be no more than moderate.	Moderate	High
A650	Moderate	ch. 40,350	Wet heath Bog	Wet heath Peat bog	Humus-iron podzols with peaty podzols and ardverikie till deposits overlying Gaick Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b) and blanket mire (M25a) located to the south east of the existing A9 carriageway near Ralia. The habitat occurs over sloping ground immediately downslope of and amongst areas of shallow and deep peat. The indicated hydrogeology does not suggest a groundwater component and there were no indications of this supplying the area during ecology surveys. Owing to the topographic setting, the habitat is likely to receive significant inputs of surface water run-off within a locally wider ombrotrophic system. Groundwater dependence is therefore assessed to be no more than low.	Low	Medium

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A652	Moderate	ch. 40,200	Wet heath Bog	Wet heath Peat bog	Humus-iron podzols and ardverikie till deposits overlying Torr Na Truim Semipelite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b) and blanket mire (M19a) located adjacent to the south east of the existing A9 carriageway near Ralia. The habitat occurs over a sloping and flat-lying area at the base of more steeply sloping ground and is located downslope of several areas of deep peat. Faultlines are indicated to underlie the habitat, which may be associated with an increase in groundwater supply from fractured bedrock, however no springs or seepages were observed. The habitat is also likely to receive significant inputs of surface water run-off due to the topographic setting. Based on these considerations, dependence on a groundwater input is assessed to be no more than low.	Low	Medium
A653	Moderate	ch. 40,220	Bog Wet heath	Peat bog Wet heath	Humus-iron podzols and peat deposits overlying Gaick Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25a) and wet heath (M15b) located to the south east of the existing A9 carriageway near Ralia. The habitat occurs over sloping ground, underlain by and immediately downslope of and amongst areas of shallow and deep peat. Faultlines are indicated to underlie the habitat, which may be associated with an increase in groundwater supply from fractured bedrock, however no springs or seepages were observed. The habitat is also likely to receive significant inputs of surface water run-off due to the topographic setting. Based on these considerations, dependence on a groundwater input is assessed to be no more than low.	Low	Medium
A654	Moderate	ch. 40,000 (tie-in)	Wet heath	Wet heath	Humus-iron podzols and ardverikie till deposits overlying Gaick Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b) located adjacent to the south east of the existing dual carriageway section of the A9 north of Crubenmore. The habitat occurs over sloping ground, underlain by and immediately downslope of and amongst areas of deep peat. Faultlines are indicated to underlie the habitat, which may be associated with an increase in groundwater supply from fractured bedrock, however no springs or seepages were observed. The habitat is also likely to receive significant inputs of surface water run-off due to the topographic setting. Based on these considerations, dependence on a groundwater input is assessed to be no more than low.	Low	Medium
A659	High	ch. 40,000 (tie-in)	Wet woodland	Other wet woodland	Humus-iron podzols and ardverikie till deposits overlying Torr Na Truim Semipelite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Large area of alder woodland (W7a, W7b) with wet heath (M15b) located adjacent to the south east of the existing dual carriageway section of the A9 north of Crubenmore. The habitat occurs over sloping and flat-lying ground at the base of more steeply sloping ground and is located downslope of several areas of deep peat. Faultlines are indicated to underlie the habitat, which may be associated with an increase in groundwater supply from fractured bedrock, however no springs or seepages were observed. The habitat is also likely to receive significant inputs of surface water run-off due to the topographic setting. Based on these considerations, dependence on a groundwater input is assessed to be no more than moderate.	Moderate	High
A660	Moderate	ch. 40,250	Bog	Peat bog	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Small area of blanket mire (M25a) located adjacent south east of the A9 carriageway just south of the existing Newtonmore junction. The habitat occurs in a flat-lying topographic low adjacent to more steeply sloping ground and is underlain and surrounded by shallow peat and deeper deposits. Faultlines are indicated upslope of the habitat, which may be associated with an increase in groundwater supply from fractured bedrock, however no springs or seepages were observed. The habitat is also likely to receive significant inputs of surface water run-off due to the topographic setting and areas of peat. Based on these considerations, dependence on groundwater input is assessed to be no more than low.	Low	Medium
A662	Partial (Moderate Sub-dominant)	ch. 40,400	Wet grassland	Marshy grassland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of dry grassland (U4a, MG1) and local patchy marshy grassland (MG9a) located adjacent to the south east of the existing A9 carriageway and comprising existing embankment/ road verge to this. The hydrogeological setting suggests inputs of groundwater cannot be entirely ruled out. However, the wet vegetation (MG9a) was observed to be associated with road drainage lines in the area and represents a small, discontinuous and fragmented parts of the overall habitat. It is therefore considered unlikely to represent GWDTE.	None	Low
A663	Partial (Moderate Sub-dominant)	ch. 40,400	Wet heath Seepage/ flush/ spring	Wet heath Seepage/ flush	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of dry heath (H12a), surface water, grassland (U4a) and local patchy wet heath (M15b) and mire (M6a) located adjacent to the south east of the existing A9 carriageway and partially comprising existing embankment/ verge to this. The wet vegetation (M15b, M6a) is associated with drainage lines and surface water collection in the area and represent patchy and fragmented parts of the overall habitat. These are considered unlikely to represent GWDTE in this setting.	None	Low
A706	High	ch. 52,100	Wet grassland Swamp	Marshy grassland Swamp	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Mire (M23a) and swamp (S9a) located to the south of the A9 carriageway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). The habitat occurs over flat-lying ground within a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. The area is wholly within the floodplain of the River Spey, while deep silty and sandy peat >1.00m has been recorded across it and adjacent areas. Although the presence of deep peat and surrounding vegetation indicates association with an ombrogenous system, the area is likely to have formed as a result of flooding and groundwater inputs cannot be entirely ruled out based on the hydrogeology. Dependence on these however, is assessed to be no more than moderate in this setting. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (upland flushes, fens and swamps and lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC S9 is also noted to be a component of the vascular plant assemblage.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
A707	Moderate	ch. 51,600	Bog Swamp	Peat bog Swamp	Mineral alluvial soils with peaty alluvial soils and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Blanket mire (M25a), swamp (S9a) and mire (M6a) mosaic located to the south of the A9 carriageway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat Compartment). The habitat occurs over flat-lying ground within a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. The area is wholly within the floodplain of the River Spey, while deep silty and sandy peat >1.00m has been recorded across it and adjacent areas. Although the vegetation and presence of deep peat and indicates association with an ombrogenous system, the area is likely to have formed as a result of flooding and groundwater inputs cannot be entirely ruled out based on the hydrogeology. Dependence on these however, is assessed to be no more than moderate in this setting. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (upland flushes, fens and swamps and lowland fen) interest feature of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR. NVC is also a component of the vascular plant assemblage.	Moderate	High
A709	High	ch. 50,900	Wet woodland	Other wet woodland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Alder woodland (W7a) located at the base of sloping ground between the Highland Mainline railway and B9152. Owing to the topographic setting, the habitat is likely to receive significant inputs of surface water run-off from the surrounding area and is also observed to be flanked by surface water drainage channels. While groundwater inputs cannot be entirely ruled out based on the underlying hydrogeology; dependence on these is assessed to be no more than moderate in this setting.	Moderate	High
BA1	Partial (High Sub-dominant)	ch. 46,050	Fen Bog	Fen Peat bog	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of swamp (S9a), mire (M4, M6c) and blanket mire (M17, M20) located to the south of the existing A9 carriageway near Milton of Nuide. The habitat occurs in a topographic hollow and is likely to receive significant inputs of surface water run-off as a result. It is one of a number of fragmented mires and small lochans in this locality however, which are likely to be linked to the local groundwater table. Based on these considerations and the underlying hydrogeology, groundwater dependence of the sub-dominant mire vegetation is assessed to be high.	High*	Very High
B7	High	ch. 56,300	Wet woodland	Other wet woodland	Humus-iron podzols and devensian till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W4b) located to the north west of the existing A9 carriageway past Meadowside quarry. The habitat occurs at the commencement of a sloping topographic depression around an area of raised bedrock and is likely to receive reasonable inputs of surface water run-off. However, faulting is noted immediately upslope of the habitat area which may be associated with an increased groundwater supply from fractured bedrock and flushing was observed in the immediate vicinity during ecology surveys. Based on these considerations, groundwater dependence of this habitat is assessed as high.	High	Very High
B8	High	ch. 56,300	Seepage/ flush/ spring	Seepage/ flush	Humus-iron podzols and devensian till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M6) flushing located to the north west of the existing A9 carriageway past Meadowside quarry. The habitat occurs immediately downslope of polygon B7 and was observed during ecology surveys to be associated with distinct flushing upslope of and through this. For similar considerations, groundwater dependence of the mire vegetation in this setting is therefore assessed to be high.	High	Very High
B31	Moderate	ch. 56,600	Wet woodland	Other wet woodland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W6), with some local aspen, located adjacent to the north of the A9 carriageway and adjacent downslope of Meadowside quarry. The habitat occurs across an existing cut slope for the A9, suggesting that it will receive significant inputs of surface water run-off. Though the hydrogeological setting suggests inputs of groundwater cannot be ruled out, the habitat was observed to represent a small area (possibly a fragment of a wider area of wet woodland prior to operation of the adjacent quarry), with no evidence of groundwater seepage. The area is considered unlikely to represent GWDTE in this setting.	None	Low
B35	Moderate	ch. 54,200	Wet grassland	Marshy grassland	Humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) located adjacent to the north west of the existing A9 carriageway near Balavil. The habitat occurs over sloping ground amongst surrounding drier grasslands and is likely to receive significant inputs of surface water run-off. However, two linear stands of the habitat area are noted to appear suddenly out of the sloping ground; which combined with the hydrogeological setting, suggest inputs from groundwater via seepage cannot be entirely ruled out. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
B38	Moderate	ch. 54,000	Wet grassland	Marshy grassland	Humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) located adjacent to the north west of the existing A9 carriageway near Balavil. The habitat occurs at the base of sloping ground amongst surrounding drier grasslands and is likely to receive significant inputs of surface water run-off. However, similar to polygon B37, some linear stands of the habitat area are noted to appear suddenly out of the slope. Combined with the hydrogeological setting, this is considered to suggest that inputs from groundwater via seepage cannot be entirely ruled out. Groundwater dependence is therefore assessed to be moderate.	Moderate	High
B42	Moderate	ch. 53,800	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) located adjacent to the north west of the existing A9 carriageway near Balavil. Though the hydrogeological setting suggests groundwater inputs cannot be entirely ruled out, the habitat was observed to be linear and occurs along the existing road verge, in association with drainage for this. The topographic setting and the nature of the habitat suggest a more significant input of surface water run-off than groundwater and it is unlikely to represent GWDTE.	None	Low

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
B54	Partial (High Sub-dominant)	ch. 50,500	Wet grassland	Marshy grassland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (U4, MG1), mire (M23a), open vegetation (OV25, OV27) and local wet woodland (W6), located to the north west of the existing A9 carriageway around the Glebe ponds at Kingussie. The wet vegetation occurs at the margins of the ponds, which are assumed to be hydrologically linked to the local groundwater table, but the topographical setting also suggests inputs of surface water and run-off are likely. Based on these considerations, groundwater dependence of the sub-dominant wet vegetation (M23, W6) is therefore assessed to be no more than moderate.	Moderate*	High
B57	High	ch. 50,550	Wet woodland	Other wet woodland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of alder woodland (W7) located adjacent to the existing junction at Kingussie, to the north west of the A9 carriageway. The habitat occurs over sloping ground adjacent to the B9152 and has drainage channels running through it, leading to the Glebe ponds. The hydrogeological setting suggests inputs of groundwater cannot be entirely ruled out, but the topographic setting and association with drainage indicates surface water inputs are also likely to be significant. Based on these considerations, groundwater dependence for this habitat is assessed to be no more than moderate.	Moderate	High
B66	Moderate	ch. 50,950	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) to the north west of the existing A9 carriageway at Kerrow Cottage. The habitat occurs in a topographic low and is coincident with a cut drainage channel, suggesting it is likely to receive significant inputs of surface water and run-off as a result. The underlying hydrogeology suggests a groundwater component cannot be entirely ruled out, but no observations of seepage were recorded during ecology surveys. Based on this, the topographic setting and association with a drainage channel, the habitat is assessed as having a low dependence on groundwater inputs.	Low	Medium
B67	Moderate	ch. 51,000	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) to the north west of the existing A9 carriageway at Kerrow Cottage. The habitat occurs in a topographic low and is coincident with a cut drainage channel, suggesting it is likely to receive significant inputs of surface water and run-off as a result. The underlying hydrogeology suggests a groundwater component cannot be entirely ruled out, but no observations of seepage were recorded during ecology surveys. Based on this, the topographic setting and association with a drainage channel, the habitat is assessed as having a low dependence on groundwater inputs.	Low	Medium
B72	High	ch. 51,200	Wet grassland	Marshy grassland	Humus-iron podzols and alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23a) occurring over thin rocky soils to the north of the existing A9 and north west of Kerrow. The habitat occurs over sloping ground adjacent to the east of an incised surface watercourse channel and within the flood extents of this. The topographic setting suggests the habitat is likely to receive significant inputs of surface water and run-off and no evidence of groundwater seepage were observed during ecology surveys. Based on these considerations and the indicated hydrogeological setting (which suggests groundwater inputs cannot be ruled out), groundwater dependence for the habitat is assessed to be no more than moderate in this setting.	Moderate	High
B81	Moderate	ch. 50,900	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) to the north west of the existing A9 carriageway at Kerrow Cottage. The habitat occurs in a topographic low and is coincident with a cut drainage channel, suggesting it is likely to receive significant inputs of surface water and run-off as a result. The underlying hydrogeology suggests a groundwater component cannot be entirely ruled out, but no observations of seepage were recorded during ecology surveys. Based on this, the topographic setting and association with a drainage channel, the habitat is assessed as having a low dependence on groundwater inputs.	Low	Medium
B82	Moderate	ch. 50,900	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) to the north west of the existing A9 carriageway at Kerrow Cottage. The habitat occurs in a topographic low and is coincident with a cut drainage channel, suggesting it is likely to receive significant inputs of surface water and run-off as a result. The underlying hydrogeology suggests a groundwater component cannot be entirely ruled out, but no observations of seepage were recorded during ecology surveys. Based on this, the topographic setting and association with a drainage channel, the habitat is assessed as having a low dependence on groundwater inputs.	Low	Medium
B83	Moderate	ch. 50,900	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) to the north west of the existing A9 carriageway at Kerrow Cottage. The habitat occurs in a topographic low and is coincident with a cut drainage channel, suggesting it is likely to receive significant inputs of surface water and run-off as a result. The underlying hydrogeology suggests a groundwater component cannot be entirely ruled out, but no observations of seepage were recorded during ecology surveys. Based on this, the topographic setting and association with a drainage channel, the habitat is assessed as having a low dependence on groundwater inputs.	Low	Medium
B88	Moderate	ch. 50,100	Fen	Fen	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M27) located on flat-lying ground adjacent to the north of the River Spey, near where the existing A9 crosses this. The habitat is wholly within the River Spey floodplain and is likely to receive reasonable contributions of surface water via periodic flooding of this and via run-off, from an adjacent area of sloping ground (polygon B93). However, the hydrogeology suggests groundwater inputs cannot be ruled out, with shallow through-flow towards the river also possible. Based on these considerations and in this setting, groundwater dependence is therefore assessed to be moderate.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
B93	Moderate	ch. 50,150	Wet woodland	Other wet woodland	Glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W6b) located on sloping ground adjacent to the north of the River Spey, near where the existing A9 crosses this. The habitat is partially within the River Spey – Insh Marshes Ramsar, SPA and SSSI and River Spey SAC, and partially within the River Spey floodplain. The location of the habitat suggests it is likely to receive reasonable contributions from surface water run-off towards the river and from periodic flooding. However, the hydrogeology suggests groundwater inputs cannot be ruled out, with shallow through-flow towards the river also possible. Based on these considerations and in this setting, groundwater dependence is therefore assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat also represents an area of alder woodland on floodplain, which is a qualifying interest feature of the Insh Marshes SAC.	Moderate	High
B95	Moderate	ch. 49,200	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of modified wet woodland (W6) and coniferous plantation located adjacent to the north west of the A9 carriageway as it crosses Ruthven Road, almost entirely on embankment. The topography of the habitat is steeply sloping on the embankment, which means it is predominantly (though not entirely) elevated relative to likely surrounding groundwater levels/ through-flows and is likely to receive more significant inputs of surface water run-off. Groundwater dependence for the wet vegetation is therefore assessed to be no more than low.	Low	Medium
B96	Moderate	ch. 49,450	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W6e) located adjacent to the north west of the existing A9 carriageway as it crosses Ruthven Road and almost entirely on the existing embankment to this. Although the habitat borders and partially encroaches into the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR; it is elevated relative to the surrounding floodplain and groundwater table and therefore does not represent GWDTE in this setting.	None	Low
B97	High	ch. 49,550	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23a) located adjacent to the north west of the existing A9 carriageway as it crosses Ruthven Road and entirely on the existing embankment to this. The habitat it is elevated relative to the surrounding River Spey floodplain and groundwater table and is therefore unlikely to represent GWDTE in this setting.	None	Low
B100	Moderate	ch. 49,750	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of marshy grassland and rush pasture (MG9, MG10a) located adjacent to the north west of the A9 carriageway near where it crosses the River Spey. The habitat occurs over flat-lying ground at the base of the existing embankment for the carriageway, falling wholly within the River Spey floodplain and Insh Marshes NNR (Ruthven compartment). The topographic setting of the habitat suggests that it is likely to receive significant inputs of surface water via run-off (including from the existing A9), but the indicated hydrogeology also suggests groundwater inputs cannot be entirely ruled out. Based on these considerations, groundwater dependence is therefore assessed to be moderate and NVC MG9 is also noted to be a component of the vascular plant assemblage interest of the Insh Marshes NNR, based on the ecological assessment in **Chapter 12** (**Volume 1**).	Moderate	High
B101	Moderate	ch. 50,000	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of woodland (W6e, W23) and grassland (U4) located adjacent to the north west of the existing A9 carriageway as it crosses the River Spey and entirely on the existing embankment to this. The habitat it is elevated relative to the surrounding floodplain and groundwater table and therefore does not represent GWDTE in this setting.	None	Low
B110	Moderate	ch. 48,850	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of marshy grassland and rush pasture (MG9, MG10a) located to the north west of the A9 carriageway near Ruthven. The habitat occurs at the margins of the River Spey – Insh Marshes Ramsar, SPA and SSSI and River Spey SAC, wholly within the River Spey flood extents and in a topographic basin at the base of an embankment to the existing road. Owing to the topographic setting, the habitat is likely to receive significant inputs of surface water run-off, but the hydrogeological setting also suggests groundwater inputs cannot be entirely ruled out. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
B113	Moderate	ch. 48,700	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Marshy grassland (MG9b) to the north west of the existing A9 carriageway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and River Spey SAC. The habitat occurs on the banks of the River Spey and is coincident with a bar location/ secondary channel of this in the direction of its flow. The hydrogeological setting suggests groundwater inputs cannot be entirely ruled out, but the location of the habitat suggests it is likely to receive more significant contributions from surface water via the river and flooding periodically associated with this. Based on these considerations, groundwater dependence is assessed as likely to be low in this setting. NVC MG9 is also noted to be a component of the vascular plant assemblage interest of the River Spey – Insh Marshes Ramsar and SSSI, based on the ecological assessment presented in **Chapter 12** (**Volume 1**).	Low	Medium
B119	Moderate	ch. 47,350	Wet grassland	Marshy grassland	Humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Rush pasture (MG10a) located to the north of the existing A9 carriageway on sloping ground along the banks of the Burn of Inverton and within the flood extents of this. Owing to the topographic setting, the habitat is likely to receive inputs of both surface water and run-off, but the hydrogeological setting also suggests groundwater inputs cannot be entirely ruled out. Based on these considerations, groundwater dependence is therefore assessed to be moderate.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
B122	High	ch. 47,600	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and head deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Large linear area of mire (M23a) located to the north of the existing A9 carriageway on sloping ground along the northern banks of the Burn of Inverton and wholly within the flood extents of this. Owing to the topographic setting, the habitat is likely to receive inputs of both surface water and run-off, but the hydrogeological setting also suggests groundwater inputs cannot be ruled out. Based on these considerations, groundwater dependence is therefore assessed to be moderate.	Moderate	High
B123	Partial (High Sub-dominant)	ch. 47,550	Bog	Quaking bog	Humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M4, M5) located in a slight topographic low and boggy area of Blar Odhar woodland, near Lochan an Tairbh. The habitat is partially in the River Spey SAC boundaries and the flood extents associated with the Burn of Inverton to the north. No evidence of a groundwater component supplying the area was observed during ecology surveys and the local topography suggests inputs of surface water run-off are likely. These are likely to originate most notably from an adjacent and upslope pocket of deep peat (as evidenced through probing surveys and observed stunted tree growth). Groundwater dependence for the sub-dominant M5 vegetation is therefore assessed as no more than moderate, but is likely to be low in this setting.	Low*	Medium
B124	High	ch. 47,425	Wet woodland	Other wet woodland	Humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of alder woodland (W7) located on sloping ground along the banks of the Burn of Inverton, within the flood extents of this and the River Spey SAC boundaries. The location of the habitat suggests it is likely to receive reasonable contributions from surface water via the burn and periodic flooding, combined with run-off towards this from adjacent higher ground. The hydrogeology suggests groundwater inputs cannot be entirely ruled out, but no evidence of groundwater supplying the area was observed during ecology surveys. Based on these considerations and in this setting, groundwater dependence is assessed to be no more than moderate.	Moderate	High
B126	Moderate	ch. 47,550	Wet woodland	Other wet woodland	Humus-iron podzols and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W3) near Lochan an Tairbh, within a boggy area of Blar Odhar woodland. The habitat is partially in the River Spey SAC boundaries and the flood extents associated with the Burn of Inverton to the north. No evidence of a groundwater component supplying the area was observed during ecology surveys and the local topography suggests inputs of surface water run-off are likely. Stunted tree growth was also noted across the habitat area, due to an accumulation of deep peat >1.00m across it (as evidenced through probing surveys). Groundwater dependence is therefore assessed to be no more than moderate, but is likely to be low in this setting.	Low	Medium
B134	High	ch. 47,750	Wet grassland	Marshy grassland	Humus-iron podzols with some peaty gleys, humic gleys, mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23a, M23b, M27) and marshy grassland (MG9) located to the north of the existing A9, along the banks of the Burn of Inverton near Inver of Nuide. The habitat occurs partially within the boundaries of the River Spey SAC and wholly within the flood extents of the watercourse feature, with the topographic setting also suggesting that inputs of surface water run-off are likely. The hydrogeological setting suggests groundwater inputs cannot be entirely ruled out, but no evidence of these were observed during ecology surveys. Based on these considerations and in this setting, groundwater dependence of the habitat is therefore assessed to be no more than moderate.	Moderate	High
B151	High	ch. 47,850	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23a, M4) located to the north of the existing A9 carriageway and adjacent to Lochan an Tairbh. The habitat occurs in a topographic basin amongst kame and kettle terrain with drier vegetation, which suggests inputs of surface water run-off to the habitat from surrounding higher ground will be likely. No evidence of groundwater supplying the habitat were observed during ecology surveys, but it was noted to be topographically close to the elevation of the adjacent lochan – which is water-filled and likely to be indicative of the local groundwater water table level. Combined with the indicated hydrogeology, dependence of the habitat on groundwater inputs is therefore assessed to be moderate in this setting.	Moderate	High
B156	High	ch. 48,250	Bog Wet grassland	Peat bog Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M6d, M23b, M3) located to the north of the existing A9 carriageway at Nuide Farm. The habitat occurs in a topographic basin adjacent to the south of an access track here and is supplied by surface water from a minor watercourse, which spreads flows diffusely over and collects in the wetland area. This watercourse was observed to be fed by a spring on the opposite side of the existing A9 carriageway some distance to the south. No evidence of groundwater supplying the area was observed during ecology surveys, but this cannot be entirely discounted due to the indicated hydrogeological setting. Based on these factors and with consideration to the distance between the spring source and the wetland, and likely contribution of surface water run-off, groundwater dependence of the habitat is assessed to be no more than moderate.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
B158	Partial (High Sub-dominant)	ch. 45,950	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of predominantly dry grassland (U4) and patchy calcareous grassland (CG10a) located adjacent to the north of the existing A9 carriageway near Nuide Farm. The habitat occurs over steeply sloping ground adjacent to polygon B156 (above) and appears likely to receive significant inputs of surface water run-off as a result. No evidence of groundwater seepage supplying the wet vegetation areas were observed during ecology surveys, but this cannot be entirely discounted due to the indicated hydrogeological setting. Based on these considerations, and the likely contribution of surface water run-off, groundwater dependence of the sub-dominant CG10a vegetation is assessed to be no more than moderate.	Moderate*	High
B161	Partial (High Sub-dominant)	ch. 45,750	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of predominantly dry grassland (U4) and patchy calcareous grassland (CG10a) located adjacent to the north of the existing A9 carriageway near Nuide Farm. The habitat occurs over hummocky and sloping ground adjacent to polygon B156 (above) and appears likely to receive significant inputs of surface water run-off as a result. No evidence of groundwater seepage supplying the wet vegetation areas were observed during ecology surveys, but this cannot be entirely discounted due to the indicated hydrogeological setting. Based on these considerations, and the likely contribution of surface water run-off, groundwater dependence of the sub-dominant CG10a vegetation is assessed to be no more than moderate.	Moderate*	High
B161	Partial (High Sub-dominant)	ch. 45,850	Wet grassland	Marshy grassland	Humus-iron podzols and alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of predominantly dry grassland (U4) and patchy calcareous grassland (CG10a) located adjacent to the north of the existing A9 carriageway near Nuide Farm. The habitat occurs over hummocky and sloping ground adjacent to polygon B156 (above) and appears likely to receive significant inputs of surface water run-off as a result. No evidence of groundwater seepage supplying the wet vegetation areas were observed during ecology surveys, but this cannot be entirely discounted due to the indicated hydrogeological setting. Based on these considerations, and the likely contribution of surface water run-off, groundwater dependence of the sub-dominant CG10a vegetation is assessed to be no more than moderate.	Moderate*	High
B179	Partial (Moderate Sub-dominant)	ch. 45,900	Wet grassland Seepage/ flush/ spring	Marshy grassland Seepage/ flush	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a), grassland (U4) and mire (M23a, M6) located to the north of the existing A9 at Nuide Farm. The habitat is located immediately adjacent to the south of the farm settlement on generally flat-lying ground to the west of Allt Eoghainn, within the flood extents of this. No evidence of groundwater seepage were observed supplying the area during ecology surveys, but the habitat is low lying and distinctly wet. Combined with the indicated hydrogeology, dependence on groundwater inputs is therefore assessed to be moderate.	Moderate	High
B181	High	ch. 45,950	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23a) located to the north of the existing A9 carriageway near Nuide Farm and occurring on the western banks of Allt Eoghainn. The habitat is located in a topographic low adjacent to the watercourse feature and is identifiable as a surface water feature itself on current OS mapping. It possibly represents a fragment of a once larger wetland area (with polygon B156) which has revegetated or is a product from through-flow/ drainage from it. Based on these observations and the hydrogeological setting, dependence on groundwater inputs is assessed to be no more than moderate.	Moderate	High
B182	Partial (High Sub-dominant)	ch. 44,350	Wet woodland	Other wet woodland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of dry (W11) and wet (W4, W6, W7) woodland mosaic located to the north of the existing A9 and adjacent to the east of Ralia Lodge. The habitat occurs over flat-lying ground adjacent to the north of an existing access road and was observed to be partially coincident with a cut drainage channel. No evidence of groundwater directly supplying the area were observed during ecology surveys, but ground conditions were visibly soft, with pooling and possible upwelling of water also observed in the immediate vicinity (polygon B183). Combined with the indicated hydrogeological setting, groundwater dependence of the habitat is therefore assessed as moderate/ high.	Moderate/ High	High/ Very High
B183	Moderate	ch. 44,400	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) located to the north west of the existing A9 and to the east of Ralia Lodge. The habitat occurs in a shallow topographic basin which is drained and coincident with a cut drainage channel. However, pooling or possible upwelling of water was also observed during field surveys. Combined with the underlying hydrogeology, groundwater dependence is therefore assessed to be moderate.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
B184	High	ch. 44,750	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23a), marshy grassland and rush pasture (MG9, MG10a) located to the north west of the existing A9 near Braes of Nuide, within the River Spey – Insh Marshes Ramsar, SPA and SSSI and River Spey SAC boundaries. The habitat occurs over flat-lying ground at the base of steeply sloping areas of woodland and wholly within the River Spey flood extents. The area is likely to receive reasonable inputs of surface water via run-off and periodic flooding. However, it is also identified as wet grassland within the Scottish Wetland Inventory and the hydrogeological setting means groundwater inputs cannot be entirely ruled out. Based on these considerations, dependence on groundwater is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (upland flushes, fens and swamps) interest feature of the River Spey – Insh Marshes Ramsar and SSSI. NVC MG9 is also noted to be a component of the vascular plant assemblage interest.	Moderate	High
B187	High	ch. 44,800	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of alder woodland (W7) located on steeply sloping ground near Braes of Nuide. The habitat is wholly within the River Spey – Insh Marshes Ramsar, SPA and SSSI, River Spey and Insh Marshes SAC and partially within the River Spey flood extents. Its location and topography suggest inputs from surface water run-off on the sloping ground are likely to be significant. However, the area is identified as wet woodland within the Scottish Wetland Inventory and the hydrogeological setting means groundwater inputs cannot be entirely discounted. Based on these considerations and in this setting, groundwater dependence is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat represents an area of alder woodland on floodplain, which is a qualifying interest feature of the Insh Marshes SAC. NVC W5 is also a component of the vascular plant assemblage interests of the River Spey – Insh Marshes Ramsar and SSSI.	Moderate	High
B188	High	ch. 44,900	Wet grassland Swamp	Marshy grassland Swamp	Mineral alluvial soils with peaty alluvial soils and ardverikie till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23a), swamp (S19, S9a) and marshy grassland (MG9) located to the north west of the existing A9 near Braes of Nuide, within the River Spey – Insh Marshes Ramsar, SPA and SSSI and River Spey SAC boundaries. The habitat occurs over flat-lying ground at the base of steeply sloping areas of woodland and wholly within the River Spey flood extents. The area is likely to receive reasonable inputs of surface water via run-off and periodic flooding. However, it is also identified as wet grassland within the Scottish Wetland Inventory and the hydrogeological setting means groundwater inputs cannot be entirely ruled out. Based on these considerations, dependence on groundwater is assessed to be moderate. Based on the ecological assessment presented in **Chapter 12** (**Volume 1**), this habitat is also noted to contain components of the floodplain mire (upland flushes, fens and swamps and lowland fen) interest feature of the River Spey – Insh Marshes Ramsar and SSSI. NVC MG9 and S9 are also noted to be components of the vascular plant assemblage.	Moderate	High
B195	Partial (Moderate Sub-dominant)	ch. 43,700	Bog	Quaking bog Peat bog	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M3, M4), blanket mire (M19), local wet heath (M15b) and dry heath (H12a) located at Blar Donn and adjacent to the revegetated transition mire (M4) Loch Buidhe. Although not confirmed by probing, morphological indicators on aerial mapping suggests the habitat is likely to be associated with an accumulation of deep peat and it occurs in a distinct topographic low relative to its immediate surroundings. It is likely to receive inputs from surface water run-off as a result, but the hydrogeological setting and water level in Loch Buidhe and another adjacent lochan feature indicate groundwater inputs are also likely. Based on these considerations, groundwater dependence of the sub-dominant wet heath vegetation (M15b) is assessed as moderate.	Moderate*	High
B198	Partial (High Sub-dominant)	ch. 43,650	Wet woodland	Other wet woodland	Glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Large area of woodland (W17, W11), dry heath (H12a) and local wet woodland (W4) located at Blar Donn to the north of the existing A9 surrounding the revegetated transition mire (M4) Loch Buidhe. The habitat occurs over variable topography, which generally slopes down towards Loch Buidhe and another small lochan in the area, with the wet woodland appearing to be distinct at the margins of these. Based on the topographic and hydrogeological setting, dependence of the sub-dominant wet woodland vegetation (W4) is assessed to be moderate.	Moderate*	High
B202	High	ch. 43,650	Wet grassland Swamp	Marshy grassland Swamp	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23a) and swamp (S9a) located at Blar Donn to the north of the existing A9 near Loch Buidhe. The habitat occurs within a linear topographic depression in the area associated with a watercourse channel, amongst variable topography and predominantly dry immediate surroundings (grasslands and plantation woodland). Owing to the topographic setting, the habitat area is likely to receive significant inputs of surface water from the watercourse and run-off from surrounding ground. Based on these considerations and the indicated hydrogeology (which suggest groundwater inputs cannot be entirely ruled out), groundwater dependence of the rush pasture (M23a) vegetation is assessed to be no more than moderate.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
B213	Partial (High Sub-dominant)	ch. 43,550	Wet woodland	Other wet woodland	Humus-iron podzols with some peaty gleys, humic gleys, mineral alluvial soils with peaty alluvial soils, peat and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of woodland (W11, W17) with local wet woodland (W4) located to the north of the existing A9 carriageway, beyond the Highland Mainline railway at Newtonmore. The habitat occurs over steeply sloping ground between Perth Road (leading into Newtonmore) and the River Truim (near its confluence with the River Spey) and partially within the flood extents of these. The topographic setting suggests the habitat is likely to receive inputs of surface water from run-off and periodically, flooding. However, the hydrogeological setting indicates that groundwater inputs for the sub-dominant wet woodland (W4) vegetation also cannot be entirely ruled out. Groundwater dependence of this component is therefore assessed to be moderate.	Moderate*	High
B214	Moderate	ch. 43,350	Wet heath	Wet heath	Humus-iron podzols with some peaty gleys, humic gleys, peat and river terrace deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b) located to the north of the existing A9 carriageway beyond the Highland Mainline railway at Newtonmore. The habitat occurs over flat-lying ground at the base of steeper sloping ground between Perth Road (leading into Newtonmore) and the River Truim (near its confluence with the River Spey) and partially in the flood extents of these. The topographic setting therefore suggests the habitat is likely to receive inputs of surface water from run-off and periodically, flooding. However, the hydrogeology also suggests that groundwater inputs cannot be entirely ruled out. Groundwater dependence for this habitat is therefore assessed to be moderate.	Moderate	High
B217	Partial (High Sub-dominant)	ch. 43,200	Wet woodland	Other wet woodland	Humus-iron podzols with some peaty gleys, humic gleys, peat and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of woodland (W4, W11, W17) and grassland (U4) located to the north of the existing A9 carriageway beyond the Highland Mainline railway at Newtonmore. The habitat occurs over steeply sloping ground, which partially comprises the existing railway embankment in the area suggesting that it is likely to receive significant inputs of surface water run-off as a result. The habitat is also predominantly elevated in comparison to its surroundings, and thus, elevated in comparison to the likely local groundwater table. Based on these considerations and in this setting, groundwater dependence of the habitat is therefore considered to be no more than low.	Low	Medium
B217	Partial (High Sub-dominant)	ch. 43,200	Wet woodland	Other wet woodland	Humus-iron podzols with some peaty gleys, humic gleys, peat and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of woodland (W4, W11, W17) and grassland (U4) located to the north of the existing A9 carriageway beyond the Highland Mainline railway at Newtonmore. The habitat occurs over steeply sloping ground, which partially comprises the existing railway embankment in the area suggesting that it is likely to receive significant inputs of surface water run-off as a result. The habitat is also predominantly elevated in comparison to its surroundings, and thus, elevated in comparison to the likely local groundwater table. Based on these considerations and in this setting, groundwater dependence of the habitat is therefore considered to be no more than low.	Low	Medium
B247	Moderate	ch. 42,250	Bog Wet heath	Peat bog Wet heath	Mineral alluvial soils with peaty alluvial soils and river terrace deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Large area of blanket mire (M25), wet heath (M15b) and mire (M6c, M6d) located to the north west of the A9 carriageway near Ralia, beyond the Highland Mainline railway. No peat depth data is available for the area, but the habitat occurs over flat-lying ground at the base of steep slopes and is bisected by the Allt Torr an Daimh watercourse. The topographic setting and partial association with a watercourse suggest some surface water inputs are likely, but the indicated hydrogeology and level of the habitat also suggest inputs from shallow groundwater through-flow towards the watercourse and otherwise, River Truim in this area, cannot be ruled out. Groundwater dependence is therefore assessed to be moderate.	Moderate	High
B249	Moderate	ch. 42,100	Wet grassland Bog	Marshy grassland Peat bog	Mineral alluvial soils with peaty alluvial soils and river terrace deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a), mire (M6d, M3), blanket mire (M25) and swamp (S9a) located to the north west of the A9 carriageway near Ralia, beyond the Highland Mainline railway. No peat depth data is available for the area, but the habitat occurs over flat-lying ground at the base of steep slopes and is partially bisected by the Allt Torr an Daimh watercourse. The topographic setting and partial association with a watercourse suggest surface water inputs are likely, but the indicated hydrogeology and level of the habitat also suggest inputs from shallow groundwater through-flow towards the watercourse and otherwise, River Truim in this area, cannot be ruled out. Groundwater dependence is therefore assessed to be moderate.	Moderate	High
B254	Moderate	ch. 41,850	Wet heath Bog	Wet heath Peat bog	Mineral alluvial soils with peaty alluvial soils and river terrace deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Large expanse of wet heath (M15b), blanket mire (M17, M25) and mire (M3) located to the north west of the A9 carriageway near Ralia, beyond the Highland Mainline railway. No peat depth data is available for the area, but the habitat occurs over flat-lying ground at the base of steep slopes and is flanked by the Allt Torr an Daimh watercourse and cut drainage channels. The topographic setting suggests surface water run-off inputs are likely from adjacent sloping ground, but the indicated hydrogeology and level of the habitat also suggest inputs from shallow groundwater through-flow towards the River Truim in this area cannot be ruled out. Groundwater dependence is therefore assessed to be moderate.	Moderate	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
B258	Partial (High Sub-dominant)	ch. 41,550	Bog	Peat bog	Mineral alluvial soils with peaty alluvial soils and river terrace deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Linear area of blanket mire (M17) and mire (M6) located to the north west of the existing A9 carriageway near an area of woodland just south of Invernahavon Holiday Park. The habitat occurs in a topographic low at the base of steeply sloping ground and in association with a cut drainage channel adjacent to the woodland. Owing to the topographic setting, inputs of surface water run-off and collection in the drainage channel are likely to be more significant than groundwater. Although this cannot be discounted, dependence on groundwater input in this setting is considered to be no more than low.	Low	Medium
B262	Moderate	ch. 41,400	Wet heath	Wet heath	Mineral alluvial soils with peaty alluvial soils and river terrace deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Small and fragmented area of wet heath (M15b) located to the north west of the existing A9 carriageway near an area of woodland just south of Invernahavon Holiday Park. The habitat occurs in a topographic low at the base of steeply sloping ground and in association with a cut drainage channel adjacent to the woodland. Owing to the topographic setting, inputs of surface water run-off and collection in the drainage channel are likely to be more significant than groundwater. Although this cannot be discounted, dependence on groundwater input in this setting is considered to be no more than low.	Low	Medium
B315	Partial (Moderate Sub-dominant)	ch. 41,150	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils and ardverikie till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of woodland (W11, W6) with conifer plantation and grassland (U4, MG1) adjacent to the north west of the existing A9 carriageway, between this and the Highland Mainline railway. The wet vegetation (W6) comprises a small fragmented part of the woodland area and owing to the topographic setting, is likely to be dependent on surface water run-off from the adjacent road as opposed to groundwater. The habitat is not considered to represent GWDTE in this setting.	None	Low
B279	Moderate	ch. 41,000	Wet heath Bog	Wet heath Peat bog	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b), blanket mire (M17) and mire (M3, M4, M6d) located to the north west of the existing A9 at Inverton. The habitat occurs over an area of flat-lying back slope terrace ground at the base of steep slopes to the east of the River Truim. Owing to the topographic setting, the habitat is likely to receive significant inputs of surface water run-off and the acid flush vegetation was distinctly observed to occur through a small runnel, being fed by surface water. The vegetation suggests the area may be associated with peat accumulation, but the indicated hydrogeology and local presence of faulting mean inputs from a local increased groundwater supply cannot be ruled out. Based on these considerations, groundwater dependence of the habitat is assessed to be no more than moderate.	Moderate	High
B285	Moderate	ch. 40,500	Bog	Peat bog	Mineral alluvial soils with peaty alluvial soils and river terrace deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25) located to the north west of the existing A9 at Invernahavon Holiday Park. The habitat occurs over an area of flat-lying back slope terrace ground at the base of steep slopes to the east of the River Truim and wholly within the flood extents of this. Owing to the topographic setting, the habitat is likely to receive significant inputs of surface water run-off, while a cut watercourse channel was observed crossing the area. Probing at the margins of the habitat suggest that it may be associated with an accumulation of deep peat, with the indicated hydrogeology and local presence of faulting meaning inputs from a local increased groundwater supply cannot be ruled out. Based on these considerations, groundwater dependence of the habitat is assessed to be no more than moderate.	Moderate	High
B289	Partial (High Sub-dominant)	ch. 40,700	Wet woodland	Other wet woodland	Mineral alluvial soils with peaty alluvial soils, alluvium and river terrace deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of birch woodland (W11) with local wet woodland (W7c) located to the north west of the A9 carriageway at Glen Truim. The habitat occurs over sloping ground adjacent to the east of the River Truim and wholly within the flood extents of this. Owing to the topographic setting therefore, the habitat is likely to receive significant inputs of surface water and run-off. The hydrogeological setting suggests groundwater inputs cannot be entirely ruled out, but dependence on these is assessed to be no more than moderate and is likely to be low in this setting.	Low*	Medium
B290	High	ch. 40,750	Seepage/ flush/ spring Wet heath	Seepage/ flush Wet heath	Mineral alluvial soils with peaty alluvial soils and alluvium deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M6, M4, M3), wet heath (M15b) and swamp (S10) located to the north west of the existing A9. The habitat occurs over an area of flat-lying back slope terrace ground at the base of steep slopes to the east of the River Truim and partially within the flood extents of this. Owing to the topographic setting, the habitat is likely to receive significant inputs of surface water run-off, while two cut watercourse channels were observed crossing the area. Probing at the margins of the habitat suggest that it may be associated with an accumulation of deep peat, with the indicated hydrogeology and local presence of faulting meaning inputs from a local increased groundwater supply cannot be ruled out. Based on these considerations, groundwater dependence of the habitat is assessed to be moderate.	Moderate	High
B292	Moderate	ch. 40,250	Wet grassland	Marshy grassland	Mineral alluvial soils with peaty alluvial soils and river terrace deposits overlying siluro-Devonian Calc-alkaline minor intrusion site. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Small pocket of marshy grassland (MG9) located to the north west of the A9 carriageway near Glen Truim, beyond the Highland Mainline railway. The habitat occurs partially within the flood extents of the River Truim to the west over sloping ground downslope of embankments associated with the railway, suggesting that inputs of surface water and run-off may be significant. The elevation and proximity of the habitat to the River Truim, combined with the hydrogeological setting also however indicate that groundwater inputs from shallow through-flow may also be possible. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High

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B293	Moderate	ch. 40,000	Wet heath	Wet heath	Humus-iron podzols and river terrace deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b) located to the north west of the existing A9 carriageway near Glen Truim and beyond the Highland Mainline railway. The habitat occurs over generally flat-lying ground at the base of steeply sloping embankments associated with the railway, suggesting that inputs of surface water run-off from this are likely to be significant. However, the elevation of the habitat in relation to the River Truim to the west and the upslope hydrogeology indicate that groundwater inputs from shallow through-flow may also be possible. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
B294	Partial (Moderate Sub-dominant)	ch. 40,100	Bog Wet woodland	Peat bog Wet woodland	Humus-iron podzols and river terrace deposits overlying siluro-Devonian Calc-alkaline minor intrusion site. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (U4, U20, U5), blanket mire (M25) and wet woodland (W4) located to the north west of the A9 carriageway near Glen Truim, beyond the Highland Mainline railway. The habitat occurs over steeply sloping ground downslope of embankments associated with the railway, suggesting that inputs of surface water run-off from this are likely to be significant. However, the elevation of the habitat in relation to the River Truim and the upslope hydrogeology indicate that groundwater inputs from shallow through-flow may also be possible. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate*	High
B296	Moderate	ch. 40,000 (tie-in)	Bog	Peat bog	Humus-iron podzols and river terrace deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25) located to the north west of the existing A9 carriageway near Glen Truim and beyond the Highland Mainline railway. The habitat occurs over generally flat-lying ground at the base of steeply sloping embankments associated with the railway, suggesting that inputs of surface water run-off from this are likely to be significant. However, the elevation of the habitat in relation to the River Truim to the west and the upslope hydrogeology indicate that groundwater inputs from shallow through-flow may also be possible. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
B301	Moderate	ch. 40,000 (tie-in)	Bog Wet heath	Peat bog Wet heath	Humus-iron podzols and river terrace deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of blanket mire (M25), wet heath (M15b) and mire (M6d, M4) located to the west of the existing A9 carriageway near Glen Truim and beyond the Highland Mainline railway. The habitat occurs over generally sloping ground adjacent to embankments associated with the railway, suggesting that inputs of surface water run-off from this are likely to be significant. However, the elevation of the habitat in relation to the River Truim to the west and the upslope hydrogeology indicate that groundwater inputs from shallow through-flow may also be possible. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
B306	High	ch. 40,200	Wet woodland Bog	Other wet woodland Peat bog	Mineral alluvial soils with peaty alluvial soils and river terrace deposits overlying siluro-Devonian Calc-alkaline minor intrusion site. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Wet woodland (W4), grassland (U4), birch (W11) and local mire (M25, M6d) located to the north west of the A9 carriageway near Glen Truim, beyond the Highland Mainline railway. The habitat occurs partially within the flood extents of the River Truim to the west over sloping ground downslope of embankments associated with the railway, suggesting that inputs of surface water and run-off may be significant. The elevation and proximity of the habitat to the River Truim, combined with the hydrogeological setting also however indicate that groundwater inputs from shallow through-flow may also be possible. Based on these considerations, groundwater dependence is assessed to be moderate.	Moderate	High
B309	Partial (Moderate Sub-dominant)	ch. 40,400	Bog	Peat bog	Mineral alluvial soils with peaty alluvial soils and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (U4, U2), dry heath (H12, H18) and very local patchy blanket mire (M25) located to the north west of the A9 carriageway near Glen Truim, beyond the Highland Mainline railway. The wet vegetation was observed to be distinctly associated with a drainage channel running through the area, which combined with the topographic setting, suggests more significant surface water components than groundwater. This habitat does not represent GWDTE in this setting.	None	Low
B325	High	ch. 42,900	Seepage/ flush/ spring Wet woodland	Seepage/ flush Other wet woodland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M6) and wet woodland (W4b) located to the north of the existing A9 near Ralia Beag, beyond the B9150 access road into Newtonmore. The habitat occurs in a topographic hollow and is likely to receive significant inputs of run-off from the surrounding ground as a result, and was also observed to be distinctly associated with a surface watercourse which crosses the existing carriageway and runs into the area. The hydrogeological setting suggests groundwater inputs cannot be entirely ruled out, but owing to the likely significant influence of surface water and run-off, dependence of the wet vegetation on these is likely to be low in this setting.	Low	Medium
C6	Moderate	ch. 55,750	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of marshy grassland (MG9b) located adjacent to the north of the A9 carriageway near Meadowside, located between an access track for the quarry near here and the existing road. The habitat occurs at the base of steeply sloping ground (falling down from an esker crestline) and at the top of an existing cut slope for the A9, suggesting that it is likely to receive significant inputs of surface water run-off. Though the hydrogeological setting suggests inputs of groundwater cannot be ruled out, the habitat was observed to represent a small fragmented area, with no evidence of groundwater seepage. The dependence of this area on groundwater is therefore assessed as low.	Low	Medium

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C15	Moderate	ch. 55,200	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) adjacent to the north of the A9 carriageway near Croftcarnoch. The habitat occurs in a topographic low directly adjacent to the existing road, where a drainage channel meets this and is likely to receive significant inputs of surface water and run-off as a result. The underlying hydrogeology suggests a groundwater component cannot be entirely ruled out, but no observations of seepage were recorded during ecology surveys. Based on this, the topographic setting and association with a drainage channel, the habitat is assessed as having a low dependence on groundwater.	Low	Medium
C16	Moderate	ch. 55,200	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) to the north of the existing A9 carriageway near Croftcarnoch. The habitat occurs in a topographic low and is coincident with a cut drainage channel, suggesting it is likely to receive significant inputs of surface water and run-off as a result. The underlying hydrogeology suggests a groundwater component cannot be entirely ruled out, but no observations of seepage were recorded during ecology surveys. Based on this, the topographic setting and association with a drainage channel, the habitat is assessed as having a low dependence on groundwater inputs.	Low	Medium
C18	Moderate	ch. 55,200	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) to the north of the existing A9 carriageway near Croftcarnoch. The habitat occurs in a topographic low and is coincident with a cut drainage channel, suggesting it is likely to receive significant inputs of surface water and run-off as a result. The underlying hydrogeology suggests a groundwater component cannot be entirely ruled out, but no observations of seepage were recorded during ecology surveys. Based on this, the topographic setting and association with a drainage channel, the habitat is assessed as having a low dependence on groundwater inputs.	Low	Medium
C19	Partial (High Sub-dominant)	ch. 55,050	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (MG6) and local mire (M23b) located to the north of the existing A9 carriageway at Croftcarnoch. The habitat occurs on gently sloping ground along a linear area, coincident with a cut drainage channel. This suggests inputs of surface water run-off are likely to be significant and no evidence of groundwater seepage were observed during ecology surveys. Based on this and the wet vegetations association with a drainage channel, the habitat is assessed as having a low dependence on groundwater inputs.	Low*	Medium
C24	High	ch. 54,800	Seepage/ flush/ spring	Seepage/ flush	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M6c) located to the north of the A9 carriageway at Croftcarnoch. The flushing emerges from an area of plantation woodland and is coincident with areas of this which appear to have been recently felled and are cross-cut by an artificial drainage channel to the immediate north of the residential properties in the area. These aspects combined with the topographic setting indicate likely significant inputs of surface water, but the underlying hydrogeology also suggests a groundwater component cannot be entirely ruled out. Based on these considerations, groundwater dependence in this setting is assessed to be no more than moderate.	Moderate	High
C27	Moderate	ch. 54,500	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of rush pasture (MG10a) to the north of the A9 carriageway near Croftcarnoch. The habitat occurs in a slight topographic low adjacent to the existing carriageway, flanked by two access tracks to the residential properties in the area. Owing to the topographic setting, the habitat is likely to receive significant inputs of surface water run-off from adjacent ground and was also observed to be associated with drainage channels. Though the underlying hydrogeology means a groundwater component cannot be entirely ruled out, dependence of the habitat on this is assessed to be no more than low in this setting.	Moderate	High
C36	Moderate	ch. 53,000	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Linear area of rush pasture (MG10a) occurring at the base of a glacial meltwater channel to the north of the existing A9 near Balavil. The habitat occurs over sloping ground and is partially associated with cut drainage channels in the area, suggesting a reasonable surface water component. However, it also noted to be immediately downslope of a well identified on OS mapping (though confirmed not to be present), with issues and sinks further downslope of this. Based on these considerations and the hydrogeological setting, groundwater dependence of the habitat is assessed to be moderate.	Moderate	High
C42	Partial (High Sub-dominant)	ch. 52,900	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of bare/ disturbed ground and patchy mire (M23) located adjacent to the north of the existing A9 carriageway near Chapelpark, beyond an access track associated with Balavil Estate. The wet vegetation is not extensive and the habitat is fragmented and not coherent, so is unlikely to represent GWDTE.	None	Low
C52	High	ch. 52,700	Seepage/ flush/ spring Wet grassland	Seepage/ flush Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M6d, M23a) located adjacent to plantation woodland near Lynvoan Cottage. The habitat occurs over gently sloping ground downslope of the woodland in association with a cut drainage channel. However, beyond the upslope woodland in the area - a number of soligenous (M6, M15a) or base-rich (M10) flushings were observed (polygons C68, C69, C70 and C72). These were assessed to indicate that the upslope locality in this area may well represent a seepage zone linked to more productive strata downslope and underlying this habitat area, so groundwater inputs cannot be ruled out. Based on these considerations and due to partial association with cut drainage, groundwater dependence is assessed to be moderate.	Moderate	High

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C53	Moderate	ch. 52,650	Wet heath Bog	Wet heath Peat bog	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of flushed wet heath (M15a) and blanket mire (M17) located on plantation woodland near Lynvoan Cottage. The habitat occurs over gently sloping ground downslope of the woodland, beyond which - a number of other soligenous (M6, M15a) or base-rich (M10) flushings were observed (polygons C68, C69, C70 and C72). These were assessed to indicate that the upslope locality in this area may well represent a seepage zone linked to more productive strata downslope and underlying this habitat area. Based on these considerations and although the habitat appears to be modified due to cut drainage, groundwater dependence is assessed to be moderate.	Moderate	High
C59	Moderate	ch. 52,600	Wet heath Bog	Wet heath Peat bog	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of flushed wet heath (M15a) and blanket mire (M17) located on plantation woodland near Lynvoan Cottage. The habitat occurs over gently sloping ground downslope of the woodland, beyond which - a number of other soligenous (M6, M15a) or base-rich (M10) flushings were observed (polygons C68, C69, C70 and C72). These were assessed to indicate that the upslope locality in this area may well represent a seepage zone linked to more productive strata downslope and underlying this habitat area. Based on these considerations and although the habitat appears to be modified due to cut drainage, groundwater dependence is assessed to be moderate.	Moderate	High
C61	High	ch. 52,500	Wet woodland	Other wet woodland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W7) and mire (M6b) located to the north of the existing A9 at Lynvoan Cottage near Lynchat. The habitat occurs over gently sloping ground downslope of coniferous plantation woodland, beyond which a number of recorded soligenous (M6, M15a) or base-rich (M10) flushings were observed (polygons C68, C69, C70 and C72). These were assessed to indicate that the upslope locality in this area may well represent a seepage zone linked to more productive strata downslope. Based on these considerations and although the habitat appears to be modified due to cut drainage, groundwater dependence is assessed to be high.	High	Very High
C65	High	ch. 52,400	Wet grassland	Marshy grassland	Humus-iron podzols and peat deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of mire (M23a) located to the north of the existing A9 at Lynvoan Cottage near Lynchat. The immediate underlying hydrogeology does not suggest a groundwater component. However, the habitat occurs over sloping ground downslope of coniferous plantation woodland, beyond which a number of recorded soligenous (M6, M15a) or base-rich (M10) flushings were observed (polygons C68, C69, C70 and C72). These were assessed to indicate that the upslope locality in this area may well represent a seepage zone linked to more productive strata downslope. Based on these considerations and although the habitat appears to be modified due to cut drainage, groundwater dependence is assessed to be high.	High	Very High
C78	Partial (Moderate Sub-dominant)	ch. 51,700	Wet heath	Wet heath	Humus-iron podzols and ardverikie till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Area of woodland (W19a), grassland (U5) and local wet heath (M15b) located to the north of the existing A9 near Upper Raitts at Balavil on steeply sloping ground. The underlying hydrogeology does not suggest a groundwater component, although occurrences of local wet heath (M15a) and mire (M6d) flushings were noted some distance upslope during ecology surveys. Notwithstanding, the habitat is predominantly dry and the wet heath is a small fragmented part of it. Groundwater dependence of this is therefore assessed to be no more than low.	Low*	Medium
C81	Partial (High Sub-dominant)	ch. 51,700	Wet grassland	Marshy grassland	Humus-iron podzols and alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as not a significant aquifer in superficial deposits and very low (fracture flow) in bedrock.	Large area of woodland (W17) and local mire (M23) located to the north of the existing A9 carriageway near Upper Raitts and along the incised banks of Allt Cealgach. The habitat is predominantly dry and the underlying hydrogeology does not suggest a groundwater component. This was supported by the lack of any field observations of groundwater seepage. This habitat does not represent GWDTE in this setting.	None	Low
C82	Partial (High Sub-dominant)	ch. 51,600	Wet grassland	Marshy grassland	Humus-iron podzols and ardverikie till deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of calcifugous (U4a, U20a) and calcareous grassland (CG10a) located adjacent to the north of the existing A9 carriageway and to the west of Allt Cealgach. The habitat occurs over sloping ground at the base of an area of woodland over thin rocky soils. The topographic setting suggests the area will receive significant inputs of surface water run-off and the presence of rocky soils supports the potential for a base-rich influence typically associated with CG10 vegetation (which may also be associated with surface water run-off through these). However, these were observed as distinctly dry during ecology surveys and no evidence of groundwater seepage were observed. Based on these considerations, groundwater inputs for this sub-dominant vegetation are therefore assessed to be no more than moderate.	Moderate*	High
C94	Moderate	ch. 51,500	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Large linear area of rush pasture (MG10a, MG11a) which emerges from an area of woodland to the north of the A9, south west of Upper Raitts and runs towards the existing carriageway. The habitat area emerges at two points from the woodland, at the base of steeply sloping gullies and is likely to receive inputs of surface water run-off as a result. However, as the linear areas of the habitat converge closer to the A9, an issues (cut drainage as opposed to upwelling) is identifiable on OS mapping, forming a channel which is passed under the existing carriageway. Based on these considerations and the indicated hydrogeological setting (which suggests groundwater inputs cannot be entirely ruled out), groundwater dependence for the habitat is assessed to be moderate.	Moderate	High

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C100	Partial (High Sub-dominant)	ch. 51,200	Wet grassland	Marshy grassland	Humus-iron podzols and alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of calcifugous (U4a) and local calcareous grassland (CG10a) occurring over thin rocky soils to the north of the existing A9 and north east of Kerrow. The habitat occurs over sloping ground adjacent to the east of an incised surface watercourse channel and is likely to receive inputs of surface water run-off as a result. The CG10a vegetation does not occur over limestone deposits and no evidence of groundwater seepage were observed during ecology surveys. Based on these considerations and the indicated hydrogeological setting (which suggests groundwater inputs cannot be ruled out), groundwater dependence for the sub-dominant calcareous grassland (CG10a) vegetation is assessed to be moderate.	Moderate*	High
C103	Moderate	ch. 51,250	Wet heath Seepage/ flush/ spring	Wet heath Seepage/ flush	Humus-iron podzols and alluvial fan deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet heath (M15b) and mire (M6d) located to the north of the existing A9 and north east of Kerrow. The habitat occurs over gently sloping ground at the base of more steeply sloping ground adjacent to the east of an incised surface watercourse channel, within its flood extents and is likely to receive inputs of surface water and run-off as a result. No evidence of groundwater seepage were observed supplying the area during ecology surveys, but the hydrogeological setting indicates inputs from this cannot be entirely ruled out. Based on these considerations, groundwater dependence of the habitat is assessed to be moderate.	Moderate	High
C105	Partial (High Sub-dominant)	ch. 47,250	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of dry heath (H10a, H10d), grassland (U4a) and local calcareous grassland (CG10a) located adjacent to the north of the existing A9 carriageway at Drumnanoich. The habitat occurs over steeply sloping ground at the base of back slope terraced ground and thin rocky soils were noted during ecology surveys. The topographic setting suggests the area will receive significant inputs of surface water run-off and the presence of rocky soils supports the potential for a base-rich influence typically associated with CG10 vegetation. However, these were observed as distinctly dry during ecology surveys and no evidence of groundwater seepage were observed. Based on these considerations, groundwater inputs for this sub-dominant vegetation are therefore assessed to be moderate.	Moderate*	High
C109	Partial (High Sub-dominant)	ch. 47,050	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (U4a) and calcareous grassland (CG10a) located adjacent to the north of the existing A9 carriageway at Drumnanoich. The habitat occurs over steeply sloping ground at the base of back slope terraced ground and thin rocky soils were noted during ecology surveys. The topographic setting suggests the area will receive significant inputs of surface water run-off and the presence of rocky soils supports the potential for a base-rich influence typically associated with CG10 vegetation. However, these were observed as distinctly dry during ecology surveys and no evidence of groundwater seepage were observed. Based on these considerations, groundwater inputs for this sub-dominant vegetation are therefore assessed to be moderate.	Moderate*	High
C110	Partial (High Sub-dominant)	ch. 46,950	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of grassland (U4b, U1b), dry heath (H10a) and calcareous grassland (CG10a) located adjacent to the north of the existing A9 carriageway at Drumnanoich. The habitat occurs over steeply sloping ground at the base of back slope terraced ground and thin rocky soils were noted during ecology surveys. The topographic setting suggests the area will receive significant inputs of surface water run-off and the presence of rocky soils supports the potential for a base-rich influence typically associated with CG10 vegetation. However, these were observed as distinctly dry during ecology surveys and no evidence of groundwater seepage were observed. Based on these considerations, groundwater inputs for this sub-dominant vegetation are therefore assessed to be moderate.	Moderate*	High
C139	High	ch. 46,000	Wet woodland	Other wet woodland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as moderate to high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of wet woodland (W4) located to the north of the existing A9 carriageway near Nuide Farm and occurring on the eastern banks of Allt Eoghainn. The habitat is located at the base of steeply sloping ground, which falls down from an access track and it is likely to receive inputs of surface water run-off as a result. The habitat is also however, located downslope of a mire basin which is fed by a spring-fed watercourse where water from this and, potentially groundwater, spreads and collects. Although not observed during ecology surveys, potential through-flow from this and the underlying hydrogeology means input of groundwater cannot be discounted. On balance therefore, groundwater dependence is assessed to be moderate.	Moderate	High
C142	Partial (High Sub-dominant)	ch. 46,100	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mesotrophic grassland (MG6), grassland (U4b), open vegetation (OV25a) and calcareous grassland (CG10a) located to the north of the existing A9 carriageway near Nuide Farm at the edge of an area of kames and eskers. Owing to the local landforms present, the habitat is predominantly dry and the wet vegetation typically occurs in topographical low points among these, meaning it is likely to receive significant inputs from surface water and run-off. Although the hydrogeology indicates groundwater contributions cannot be discounted, no evidence of these were observed during ecology surveys. Dependence of the sub-dominant vegetation on groundwater is therefore assessed to be no more than moderate in this setting.	Moderate*	High

Polygon ID	SEPA Potential Groundwater Dependence	Approximate Chainage	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Hydrogeology Consideration (geology, soils and groundwater)	Hydro-ecological Consideration (vegetation, topographic setting, visual signs of groundwater, surface water features)	Likely Groundwater Dependence	Sensitivity
C142	Partial (High Sub-dominant)	ch. 46,300	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mesotrophic grassland (MG6), grassland (U4b), open vegetation (OV25a) and calcareous grassland (CG10a) located to the north of the existing A9 carriageway near Nuide Farm at the edge of an area of kames and eskers. Owing to the local landforms present, the habitat is predominantly dry and the wet vegetation occurs in topographical low points among these, meaning it is likely to receive significant inputs from surface water and run-off. Although the hydrogeology indicates groundwater contributions cannot be discounted, no evidence of these were observed during ecology surveys. Dependence of the sub-dominant vegetation on groundwater is therefore assessed to be no more than moderate in this setting.	Moderate*	High
C145	Partial (High Sub-dominant)	ch. 46,300	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mesotrophic grassland (MG6) and local calcareous grassland (CG10a) adjacent to the north of the existing A9 near Nuide Farm, surrounding a small water-filled kettle hole. The CG10a vegetation occurs at the very edge of the kettle hole at the lowest points in the habitat and is likely to receive inputs of surface water run-off from surrounding higher ground as a result. However, the presence of water in the kettle hole indicates this extends below the local groundwater table and will be fed from this. Combined with the indicated hydrogeology, dependence of the sub-dominant CG10a vegetation on groundwater is therefore assessed to be moderate.	Moderate*	High
C146	Partial (High Sub-dominant)	ch. 46,250	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Large area of grassland (U4a, U4b), calcareous grassland (CG10a) and dry heath (H10d) located to the north of the existing A9 carriageway near Nuide Farm across an area of kames and eskers. Owing to the local landforms present, the habitat is predominantly dry and the wet vegetation occurs in topographical low points among these, meaning it is likely to receive significant inputs from surface water and run-off. Although the hydrogeology indicates groundwater contributions cannot be discounted, no evidence of these were observed during ecology surveys. Dependence of the sub-dominant CG10a vegetation on groundwater is therefore assessed to be no more than moderate in this setting.	Moderate*	High
C147	Partial (High Sub-dominant)	ch. 46,150	Wet grassland	Marshy grassland	Humus-iron podzols and glaciofluvial deposits overlying Loch Laggan Psammite Formation bedrock. Aquifer productivity is mapped as high (intergranular) in superficial deposits and very low (fracture flow) in bedrock.	Area of mesotrophic grassland (MG6), grassland (U4b), open vegetation (OV25a) and calcareous grassland (CG10a) located to the north of the existing A9 carriageway near Nuide Farm at the edge of and within an area of kames and eskers. Owing to the local landforms present, the habitat is predominantly dry and the wet vegetation typically occurs in topographical low points among these, meaning it is likely to receive significant inputs from surface water and run-off. Although the hydrogeology indicates groundwater contributions cannot be discounted, no evidence of these were observed during ecology surveys. Dependence of the sub-dominant vegetation on groundwater is therefore assessed to be no more than moderate in this setting.	Moderate*	High

3.1.23 Based on **Table 4** and the review of the hydro-ecological context of each habitat; it is considered that groundwater is unlikely to be a contributory source to some 17 habitats locally, particularly those comprising existing road verge, embankment or cut slopes, and where wet vegetation comprises small fragments and discontinuous parts associated with surface water, drainage or run-off. A total of 40 habitats (covering 35.71 hectares) have also been assessed as being likely to have only a low dependence on groundwater due to their topographic setting, the likely influence of surface water and run-off or association with more ombrotrophic areas of peatland.

3.1.24 The hydrogeological conditions across the study area however, mean that groundwater inputs to the majority of habitat areas cannot be discounted and are indeed likely. Several areas identified as wet woodland (NVC W3, W4, W5, W6, W7), wet grassland (NVC MG9, MG10, MG11, CG10, M23), seepages, flushes or springs (NVC M5, M6, M10), fen (NVC M5, M27), swamp (NVC S11), wet heath (NVC M15), bog (NVC M5, M15, M25), or mosaics of these and other communities, have therefore been assessed as being likely to be dependent on groundwater to varying degrees. In this respect, 153 areas (covering 175.38 hectares) have been identified to have a moderate dependence on groundwater, two areas (covering 0.94 hectares) have been identified to have a moderate/ high dependence on groundwater, and 13 areas (covering 8.64 hectares) have been identified to have a high dependence on groundwater. These are located throughout the Proposed Scheme, where the topographic setting corresponds to potential or evidenced increased groundwater supply via emergence, seepage and through-flow from local issues or upwellings, soligenous or base-rich flushings, or the hydrogeological conditions are such that shallow water tables or groundwater inputs from permeable and productive superficial soils are likely to support GWDTE presence.

3.1.25 With reference to the ecological assessment in **Chapter 12** (**Volume 1**), it is also noted that the River Spey – Insh Marshes Ramsar, SPA and Insh Marshes SAC are of international importance and designated under the EU Habitats Directive for qualifying features including floodplain mire and loch habitats, transition mire and quaking bog, alder woodland on floodplains, nationally rare and scarce aquatic plants, and breeding bird populations that these and other habitat areas support. The River Spey – Insh Marshes SSSI is also of designated national importance for notified features including floodplain fen and its assemblage of vascular plants, and similarly, other aspects that these support. The ecological assessment additionally notes that the Insh Marshes NNR is of national importance for nature conservation purposes, public and community enjoyment, and that important species and habitats within it overlap with many of the notified features of the of the River Spey – Insh Marshes SSSI; including floodplain fen and the vascular plant assemblage.

3.1.26 As noted in **Table 4**, it is therefore recognised that 57 of the GWDTE habitats in the study area partially or wholly fall within the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes SAC boundaries, and 51 partially or wholly fall within the Insh Marshes NNR boundaries. Of these, three areas of wet woodland and one area of bog correspond to the alder woodland and transition mire and quaking bog habitat qualifying interests of the Insh Marshes SAC. Forty-two areas of swamp, fen, wet woodland, wet grasslands, bog or mosaics of these also correspond to or contain components of either the floodplain fen, mire or plant assemblage interests of the River Spey – Insh Marshes Ramsar, SSSI and Insh Marshes NNR.

4 Potential Impacts

Embedded Mitigation

4.1.1 Throughout the DMRB Stage 3 design development process for the Proposed Scheme; a number of environmentally-led workshops considered each aspect of the developing design and made

recommendations for certain features to be included, or aspects of the design to be reconsidered. GWDTE were afforded consideration through this process and their presence informed some areas of infrastructure layout and positioning changes for particular scheme elements, such as compensatory flood storage areas, as described in **Chapter 4** (**Volume 1**).

4.1.2 Notwithstanding, almost all infrastructure for the Proposed Scheme is located within 100m of habitat areas with at least a degree of groundwater dependence. Although further actions to avoid or reduce impacts may be achievable through the use of appropriate construction materials, methods and techniques, and further micrositing and groundwater management during detailed design or construction, several areas are likely to be unavoidable and will be disturbed directly and/ or indirectly.

Potential Impact Assessment

4.1.3 The Proposed Scheme has the potential to impact on those areas which are unavoidable during both construction and operation, through dewatering or aspects of infrastructure which may impede or alter the near surface hydrology, groundwater levels, flows or quality and drainage patterns in the immediate vicinity. The areas are also susceptible to direct loss and disturbance within the Proposed Scheme footprint and wider land made available as a result of vegetation stripping or clearance, soil compaction, drainage, reduced infiltration and associated hydrological disruption.

4.1.4 Based on this, a semi-quantitative and qualitative assessment of potential impacts has been undertaken and is summarised in **Table 5**. Within this, the extents of individual habitat areas in the Proposed Scheme footprint and wider land made available have been quantified, and consideration of effects in relation to areas widening or cutting likely to intercept groundwater has been assessed using the Sichardt formula (Powers *et al.*, 2007; CIRIA, 2016). The Sichardt calculations have been based on the maximum groundwater depth level anticipated in each widening or cutting area, as per **Table 10-13** in **Chapter 10** (**Volume 1**), and hydraulic conductivities ranging from 10^{-4} and 10^{-5} metres per second have been applied in these; which was considered to be suitably conservative.

4.1.5 The magnitude and significance of impact for each area is based on professional judgement and the criteria in **Table 10-5** within **Chapter 10** (**Volume 1**), through combined consideration of the potential direct and indirect effects that may be relevant. As all GWDTE in the study area may reasonably be vulnerable to potential impacts on water quality as a result of accidental spillages, uncontrolled run-off or increased sedimentation, an overall assessment of this is presented in **Chapter 10** (**Volume 1**) in relation to groundwater quality. The assessment presented in **Table 5** therefore focusses on the potential for direct loss and disturbance, groundwater drawdown and alterations to local groundwater levels and flows, near surface hydrology and drainage with regards the Proposed Scheme infrastructure, local topography and water supply mechanisms. Where no impact is anticipated, or the areas have been identified to be outwith the estimated zones of dewatering influence for widenings or cuttings, the magnitude and significance are assigned as 'N/A' or qualitatively considered in the context of other works in the vicinity.

4.1.6 All habitats have been considered in the assessment based on their likely groundwater dependence and assigned sensitivity from **Table 4**. The potential impacts apply during both construction and operation, and are described without mitigation. Those determined to have no dependence on groundwater input are excluded, as direct and indirect impacts on these areas are considered as part of the ecological assessment in **Chapter 12** (**Volume 1**).

Table 4: GWDTE Impact Assessment

Polygon ID	Total Area (ha)	Likely Groundwater Dependence	Sensitivity	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Total Area within Proposed Scheme footprint (ha)	Total Area within Land Made Available (ha)	Description of Potential Impacts (including Direct Effects/ Disturbance and Indirect Effects/ Disturbance from Nearest Earthworks Likely to Intercept Groundwater)	Magnitude	Significance
A305	0.37	Moderate	High	Wet woodland	Other wet woodland	0.00	0.00	Area of wet woodland (W3) located on gently sloping ground to the south of the B9152 and at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil and Dunachton compartments). The habitat is located outwith the permanent and temporary works boundaries, 85m down-gradient and south east of mainline widening P9-MC-22. The habitat occurs at an elevation in the region of 30m below the widening, with very limited to no drawdown of groundwater level expected as a result. Groundwater flow and gradients may be impacted upslope together with alterations in local drainage and run-off, but potential indirect impacts associated with this are anticipated to be no more than negligible in magnitude at the level of the habitat.	Negligible	Neutral
A307	1.86	Moderate	High	Wet woodland	Other wet woodland	0.02	0.07	Area of wet woodland (W3) located on gently sloping and flat-lying ground to the south of the B9152, within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil and Dunachton compartments). The habitat is partially within the permanent works boundaries and Proposed Scheme footprint for a proposed watercourse diversion, while also being 95m down-gradient and south east of mainline widening P9-MC-22. The habitat occurs at an elevation in the region of 30m below the widening, with very limited to no drawdown of groundwater levels expected as a result. Groundwater flow and gradients may be impacted upslope together with alterations in local drainage and run-off, but potential indirect impacts are anticipated to be no more than negligible in magnitude at the level of the habitat. Some direct disturbance may occur however and this is assessed to be of minor magnitude.	Minor	Slight/ Moderate
A313	0.85	Moderate	High	Wet woodland	Other wet woodland	<0.01	0.36	Area of wet woodland (W3) located on gently sloping and flat-lying ground to the south of the B9152, at the fringes of and extending into the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat is marginally located within the Proposed Scheme footprint for a pre-earthworks drainage outfall and a reasonable proportion of it is also falls within the temporary works boundaries for possible construction activities. The habitat is otherwise located down-gradient to the south east of mainline widenings P9-MC-25, P9-MC-26 and SuDS 563, all of which are likely to intercept groundwater. Groundwater flow and gradients may be impacted upslope together with alterations in local drainage and run-off, direct disturbance and loss. Potential impacts are assessed to be both direct and indirect and of major magnitude.	Major	Large/ Very Large
A316	1.23	Moderate	High	Wet woodland	Other wet woodland	0.00	0.00	Area of wet woodland (W3) located on gently sloping and flat-lying ground to the south of the B9152, at the fringes of and extending into the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat is located outwith the permanent and temporary works boundaries, 60m down-gradient and south east of mainline widening P9-MC-27 which is not anticipated to intercept groundwater and otherwise, 20m south east and down-gradient of proposed mainline embankments and 45m south east and down-gradient of the northern tie-in to the existing dual carriageway. No direct impacts are anticipated but there may be indirect effects due to nearby and upslope alterations in local drainage and run-off, assessed to be of negligible magnitude.	Negligible	Neutral
A325	0.71	Moderate*	High	Wet woodland	Other wet woodland	0.01	0.05	Large linear area of predominantly dry woodland (W11d, W11c) and grasslands (U4b, MG1), but partial cover of wet woodland (W3). The habitat is located adjacent to the south of the B9152 at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil compartment). The habitat is partially encroached by permanent works boundaries and Proposed Scheme footprint for pre-earthworks drainage outfalls and small embankments, while also being between 50 and 110m down-gradient and south east of mainline widenings P9-MC-21 and P9-MC-22, which are likely to intercept groundwater. The habitat occurs at elevations between 5 and 10m below the widenings, although groundwater flow and gradients towards the area may be impacted, together with alterations in local drainage and run-off. Combined with some partial direct disturbance and loss, potential impacts are assessed to be of moderate magnitude.	Moderate	Moderate/ Large
A326	1.32	Moderate	High	Wet woodland	Other wet woodland	0.00	0.01	Area of wet woodland (W3) located on flat-lying ground to the south of the B9152, at the fringes of and extending into the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil compartment). The habitat is marginally encroached by the permanent works boundaries for a pre-earthworks drainage outfall and otherwise, 75m down-gradient of mainline widenings P9-MC-21 and P9-MC-22. Both widening areas are likely to intercept groundwater, but as the habitat occurs at variably lower elevations than these, limited drawdown of groundwater levels are expected. Groundwater flow gradients may nevertheless be impacted upslope, together with alterations in local drainage and run-off, which combined with marginal elements of direct disturbance, could have a moderate magnitude of impact.	Moderate	Moderate/ Large
A341	0.69	Moderate	High	Wet woodland	Other wet woodland	0.00	0.00	Area of wet woodland (W3) located adjacent to the south of the Highland Mainline railway and within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). It is outwith the permanent and temporary works boundaries and cuttings for compensatory flood storage area CSA 9 and SuDS 534 side road drainage are proposed between 50 and 140m up-gradient on the opposite side of the railway, but the habitat is located outwith the estimated zones of dewatering influence from these. No direct impacts are anticipated and while there may be some up-gradient changes in drainage and local groundwater levels and flows, these are assessed to be no more than negligible in magnitude.	N/A	N/A

Polygon ID	Total Area (ha)	Likely Groundwater Dependence	Sensitivity	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Total Area within Proposed Scheme footprint (ha)	Total Area within Land Made Available (ha)	Description of Potential Impacts (including Direct Effects/ Disturbance and Indirect Effects/ Disturbance from Nearest Earthworks Likely to Intercept Groundwater)	Magnitude	Significance
A342	0.40	Moderate	High	Wet woodland	Other wet woodland	0.00	0.00	Area of wet woodland (W4) located adjacent to the south of the Highland Mainline railway near Chapelpark and east of Lynchat. The habitat occurs over generally flat-lying ground on the edge of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). It is outwith the permanent and temporary works boundaries and cuttings for compensatory flood storage area CSA 9 and SuDS 534 are proposed between 50 and 140m up-gradient on the opposite side of the railway, but the habitat is located outwith the estimated zones of dewatering influence from these. No direct impacts are anticipated and while there may be some up-gradient changes in drainage and local groundwater levels and flows, these are assessed to be no more than negligible in magnitude.	Negligible	Neutral
A343	0.42	Moderate	High	Wet woodland	Other wet woodland	0.00	0.00	Relatively small patch of wet woodland (W5) near Chapelpark and east of Lynchat. The habitat occurs over generally flat-lying ground on the edge of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). It is outwith the permanent and temporary works boundaries and cuttings for compensatory flood storage area CSA 9 and SuDS 534 are proposed between 105 and 150m up-gradient on the opposite side of the railway, but the habitat is located outwith the estimated zones of dewatering influence from these. The habitat is otherwise located adjacent to the north east of an area identified for surface water drainage investigations. No direct impacts are anticipated, with indirect effects assessed to be negligible in magnitude.	Negligible	Neutral
A372	1.49	Moderate	High	Wet woodland	Other wet woodland	0.00	0.31	Area of wet woodland (W3) located to the south of the A9 carriageway, between the B9152 and the Highland Mainline railway near Chapelpark. The habitat occurs over generally flat-lying ground just beyond the boundaries of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment) and is partially encroached by the permanent works boundaries for construction activities and an area identified for surface water drainage investigations. The area is otherwise between 15 and 110m down-gradient of cuttings for compensatory flood storage area CSA 9 and SuDS 534, which are likely to intercept groundwater. Potential impacts are anticipated to be direct and indirect and of moderate magnitude.	Moderate	Moderate/ Large
A392	0.43	Moderate	High	Wet woodland	Other wet woodland	0.01	0.04	Area of wet woodland (W3) located to the south of the A9 carriageway within the Insh Marshes NNR (Lynchat compartment). The habitat occurs over sloping/ becoming flat ground, partially within permanent works boundaries and partially within the Proposed Scheme footprint for a pre-earthworks drainage outfall. The area is also located on the opposite side of the carriageway to mainline widening P9-MC-19 which is likely to intercept groundwater, and lies across predominantly sloping ground at a lower elevation than this. The topographic setting of the habitat suggests that it could continue to receive inputs of surface water and run-off, but some direct disturbance is anticipated to facilitate construction and the local groundwater component may also be impacted by changes in levels and gradients from the upslope widening. Potential impacts are anticipated to be direct and indirect and of moderate magnitude.	Moderate	Moderate/ Large
A415	0.36	Moderate	High	Wet woodland	Other wet woodland	0.00	0.02	Alder woodland (W7a) located adjacent to the north of the Highland Mainline railway, between this and the B9152 near Kingussie. The habitat occurs in a topographic low point which is likely to receive surface water run-off from adjacent areas and was observed to be coincident with some drainage channels which feed into the area. It is marginally encroached by the temporary works boundaries, 150m cross-gradient of a temporary construction works area and 225m down-gradient of the proposed Kingussie junction, associated embankments, pre-earthworks drainage and cutting for SuDS 509, P9-KJ-01, P9-MC-16 and compensatory flood storage area CSA 7, beyond intervening drainage channels. Potential impacts are anticipated to be direct and of minor magnitude.	Negligible	Neutral
A421	0.18	Moderate	High	Wet woodland	Other wet woodland	0.08	0.10	Alder woodland (W7a) and local grassland (U4a) located at the base of sloping ground between the Highland Mainline railway and B9152. The habitat is located entirely within the permanent works boundaries for a proposed embankment and adjacent to the north of SuDS 507 and compensatory flood storage area CSA 7. Potential impacts are anticipated to be direct and of major magnitude.	Major	Large/ Very Large
A455	1.04	Moderate	High	Wet woodland	Other wet woodland	0.00	0.01	Area of wet woodland (W7a) located on flat-lying ground to the south east of the A9 carriageway at the edge of the Insh Marshes NNR (Ruthven compartment). The habitat is marginally encroached by the permanent works boundaries in the vicinity of SuDS 493 and an associated access track at Ruthven, but no permanent infrastructure is proposed within it. The habitat is topographically level with the cutting for SuDS 493 beyond an intervening cut drainage channel and marginally within the zone of dewatering influence. Potential impacts are anticipated to be direct and indirect and of minor magnitude.	Minor	Slight/ Moderate
A456	0.31	Moderate	High	Wet woodland	Other wet woodland	0.22	0.07	Area of wet woodland (W7a) located on flat-lying ground to the south east of the A9 carriageway at the base of an existing embankment for this and within the Insh Marshes NNR (Ruthven compartment). The habitat is entirely within the permanent works boundaries and almost entirely within the Proposed Scheme footprint for the proposed River Spey bridge southern approach embankment, SuDS 493 and an associated access track at Ruthven. Potential impacts are assessed to be direct and of major magnitude.	Major	Large/ Very Large

Polygon ID	Total Area (ha)	Likely Groundwater Dependence	Sensitivity	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Total Area within Proposed Scheme footprint (ha)	Total Area within Land Made Available (ha)	Description of Potential Impacts (including Direct Effects/ Disturbance and Indirect Effects/ Disturbance from Nearest Earthworks Likely to Intercept Groundwater)	Magnitude	Significance
A564	4.54	Moderate	High	Wet woodland	Other wet woodland	1.72	1.32	Area of wet woodland (W4, W11d) located on steeply sloping ground adjacent to the south of the existing A9 carriageway near Ralia Moss. The habitat is located almost entirely within the Proposed Scheme footprint and permanent works boundaries for pre-earthworks drainage, a construction works area and mainline cutting P9-MC-07, while being almost entirely within the estimated zone of dewatering influence for this. Although the topographic setting in the area suggests some parts of the habitat will continue to receive surface water run-off, a reasonable proportion of direct loss and disturbance to facilitate construction activities is likely, with a proportion that may also be affected due to dewatering. Potential impacts are assessed to be direct and indirect and of major magnitude.	Major	Large/ Very Large
A602	0.20	Moderate	High	Wet woodland	Other wet woodland	0.01	0.19	Small strip of wet woodland (W7a) located to the south east of the existing A9 near Ralia and running alongside the Allt Torr an Daimh watercourse. The habitat is located entirely within the permanent works boundaries and partially within the Proposed Scheme footprint for a watercourse diversion, occurring over sloping ground towards these. It is also located 45m north and cross-gradient of mainline widening P9-MC-03, which is not anticipated to intercept groundwater. Direct loss of habitat to facilitate construction activities is considered likely, with the potential magnitude of impact assessed as major.	Major	Large/ Very Large
A646	0.06	Moderate	High	Wet woodland	Other wet woodland	0.00	0.00	Small pocket of woodland (W4) located to the south east of the existing A9 carriageway near Ralia. The habitat is outwith the permanent and temporary works boundaries, 210m south, up and cross-gradient of mainline widening P9-MC-01. The habitat occurs at the base of a linear topographic depression and is elevated (in the region of 5m) relative to the widening, but is partially within the estimated zone of dewatering influence for it. The topographic setting and nature of the likely water supply mechanisms to the habitat suggest it will continue to receive surface water and run-off inputs, but the local groundwater component may be slightly affected. Potential impacts are assessed to be indirect of minor magnitude.	Minor	Slight/ Moderate
A709	0.97	Moderate	High	Wet woodland	Other wet woodland	<0.01	0.32	Alder woodland (W7a) located at the base of sloping ground between the Highland Mainline railway and B9152. The habitat is partially encroached by the permanent and temporary works boundaries and Proposed Scheme footprint for a drainage channel, adjacent and down-gradient of construction phase works areas, the proposed Kingussie junction (P9-KJ-01), cuttings for SuDS 507 and SuDS 509, compensatory flood storage area cutting CSA 7 and otherwise, mainline embankments and drainage. Some direct disturbance may occur to facilitate construction and the topographic setting suggest inputs of surface water and run-off will continue. However, the habitat may also be indirectly affected by groundwater changes in the vicinity, the local increase of impermeable area and alterations in drainage, with the potential impacts assessed to be of moderate magnitude.	Moderate	Moderate/ Large
B7	0.13	High	Very High	Wet woodland	Other wet woodland	0.00	0.00	Area of wet woodland (W4b) located to the north west of the existing A9 carriageway past Meadowside quarry. The habitat is located outwith the permanent and temporary works boundaries, 250m north west and up-gradient of mainline widening P9-MC-25, which is likely to intercept groundwater. The habitat is elevated (in the region of 10m) relative to the widening beyond the existing Meadowside quarry and is outwith the estimated zone of dewatering influence for it. No direct or indirect impacts are anticipated.	N/A	N/A
B57	0.44	Moderate	High	Wet woodland	Other wet woodland	0.08	0.02	Area of alder woodland (W7) located adjacent to the existing junction at Kingussie, to the north west of the A9 carriageway. The habitat occurs over sloping ground adjacent to the B9152 and has drainage channels running through it. It is partially within the permanent works boundaries over sloping ground, partially encroached by the Proposed Scheme footprint for embankments and drainage, and 120m west and cross-gradient of a cutting for SuDS 507, which is likely to intercept groundwater. The habitat is outwith the zone of dewatering influence of the cutting and the topographic setting suggests it will continue to receive surface water and groundwater inputs. Some direct habitat loss is anticipated however, with a proportion that may also be affected due to the local increase of impermeable area and changes in drainage. Potential impacts are assessed to be direct and indirect and of moderate magnitude.	Moderate	Moderate/ Large
B93	1.18	Moderate	High	Wet woodland	Other wet woodland	0.00	0.00	Area of wet woodland (W6b) located on sloping ground adjacent to the north of the River Spey, partially within the River Spey – Insh Marshes Ramsar, SPA and SSSI and River Spey SAC. The habitat is outwith the permanent and temporary works boundaries, 45m west of the proposed northern approach embankment for the River Spey bridge, 20m south west and down-gradient of a proposed construction works area and 60m south west and down-gradient of cuttings P9-CS-01 and P9-MC-16. Only P9-CS-01 is likely to intercept groundwater and a small proportion of the habitat is partially within the estimated zone of dewatering influence for this. No direct impacts are anticipated, with potential indirect effects assessed to be of minor magnitude.	Minor	Slight/ Moderate
B95	0.18	Low	Medium	Wet woodland	Other wet woodland	0.02	0.16	Area of modified wet woodland (W6) and coniferous plantation located adjacent to the north west of the A9 carriageway as it crosses Ruthven Road, almost entirely on embankment. The habitat is located entirely within the permanent works boundaries and partially within the Proposed Scheme footprint for embankment widening and drainage. Direct loss of habitat to facilitate construction activities is considered likely, with the potential magnitude of impact assessed as major.	Major	Large

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B124	0.35	Moderate	High	Wet woodland	Other wet woodland	0.00	<0.01	Area of alder woodland (W7) located on sloping ground along the banks of the Burn of Inverton. The habitat is located marginally within the permanent works boundaries and partially encroached by a pre-earthworks drainage channel to the watercourse and down-gradient of proposed embankments, mainline widening P9-MC-12 and a cutting for SuDS 474, which are not anticipated to intercept groundwater. The vast majority of the habitat area occurs outwith the proposed works areas and extends along the banks of the Burn of Inverton. Therefore, while some minor direct habitat loss and disturbance is expected, this is assessed to be of negligible magnitude.	Negligible	Neutral
B126	0.28	Low	Medium	Wet woodland	Other wet woodland	0.00	0.00	Area of wet woodland (W3) near Lochan an Tairbh, within a boggy area of Blar Odhar woodland. The habitat is outwith the permanent and temporary works boundaries, 20m north east and down-gradient of a cutting for SuDS 474 and 90m north east and down-gradient of mainline widening P9-MC-12, neither of which are anticipated to intercept groundwater. Given the proximity of the habitat to the works, the local increase of impermeable area and changes in drainage may slightly impact on run-off mechanisms towards it, but this is assessed to be of negligible magnitude.	Negligible	Neutral
B182	0.64	Moderate/ High	High/ Very High	Wet woodland	Other wet woodland	0.02	0.02	Area of dry (W11) and wet (W4, W6, W7) woodland mosaic located to the north of the existing A9 and adjacent to the east of Ralia Lodge. The habitat occurs over flat-lying ground adjacent to the north of an existing access road, partially coincident with a cut drainage channel. It is marginally encroached by the Proposed Scheme footprint, permanent and temporary works boundaries for an area of shallow widening alongside the access road and is otherwise 50m west and down-gradient of proposed mainline embankments, pre-earthworks drainage and watercourse diversions. The majority of the habitat falls outwith the permanent and temporary works boundaries and the proportions that may be directly affected are drier. Based on this and although the proximity of the habitat to the works means a local increase of impermeable area and changes in drainage may slightly impact on run-off mechanisms towards it, potential impacts are assessed to be of negligible magnitude.	Negligible	Neutral
B187	0.63	Moderate	High	Wet woodland	Other wet woodland	0.00	0.00	Area of alder woodland (W7) located to the north west of the existing A9 near Braes of Nuide, within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and River Spey SAC boundaries. The habitat occurs over sloping ground beyond an area of drier woodland, outwith the permanent and temporary works boundaries, but 45m down-gradient of proposed mainline embankments, some areas of shallow access track widening and 85m down-gradient on the opposite side of the carriageway to mainline cutting P9-MC-07, which is anticipated to intercept groundwater. The habitat is located at elevations variably between 30 and 40m below the cutting, with very limited to no drawdown of groundwater levels expected as a result. Groundwater flow and gradients are likely to be impacted upslope by the cutting (which may require inclusion of rock traps, retaining walls and/ or platform benching), together with alterations in local drainage and run-off due to the embankment and access track works. Based on the nature of the works relative to the local topography however, potential indirect impacts are anticipated to be no more than negligible in magnitude at the level of the habitat.	Negligible	Neutral
B198	3.68	Moderate*	High	Wet woodland	Other wet woodland	0.00	<0.01	Large area of woodland (W17, W11), dry heath (H12a) and local wet woodland (W4) located at Blar Donn to the north of the existing A9 near Loch Buidhe. The habitat occurs over variable topography, which generally slopes down towards the loch and another small lochan in the area, with the wet woodland appearing to be distinct at the margins of these. It is very marginally encroached by the permanent works boundaries for the proposed Newtonmore junction and is otherwise 150m north of the proposed Newtonmore junction and cutting P9-NJ-03, 40m cross-gradient of a cutting for SuDS 434 and 170m down-gradient of mainline cutting P9-MC-06. Of these, only cutting P9-MC-06 is anticipated to intercept groundwater, but the habitat is located outwith the estimated zone of dewatering influence of this. Potential impacts are anticipated to be of negligible magnitude.	Negligible	Neutral
B213	2.62	Moderate*	High	Wet woodland	Other wet woodland	0.02	0.05	Area of predominantly dry woodland (W11, W17) with local wet woodland (W4) located to the north of the existing A9 carriageway, beyond the Highland Mainline railway at Newtonmore. The habitat is marginally encroached by the permanent works boundaries and Proposed Scheme footprint for a drainage channel outfall to the River Truim, and otherwise 45m north and down-gradient of a cutting for SuDS 434, 70m north and down-gradient of cutting P9-NJ-03 and 260m north down-gradient of cuttings P9-NJ-01 and P9-NJ-02. Of these, only P9-NJ-02 is anticipated to intercept groundwater, but the area is located outwith the estimated zone of dewatering influence of this. Some marginal direct habitat loss and disturbance may occur, but this and any indirect effects are assessed to be of negligible magnitude.	Negligible	Neutral
B217	0.16	Low	Medium	Wet woodland	Other wet woodland	0.00	0.00	Area of woodland (W4, W11, W17) and grassland (U4) located to the north of the existing A9 carriageway at Newtonmore. The habitat occurs over steeply sloping ground, outwith the permanent and temporary works boundaries, beyond the Highland Mainline railway. A cutting for proposed SuDS 434 is located on the opposite side of the railway and is not anticipated to intercept groundwater, while permanent and temporary works activities on the opposite side of the railway in this area are distanced from the habitat. No direct or indirect impacts are anticipated.	N/A	N/A

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B217	1.56	Low	Medium	Wet woodland	Other wet woodland	0.00	0.02	Area of woodland (W4, W11, W17) and grassland (U4) located to the north of the existing A9 carriageway beyond the Highland Mainline railway at Newtonmore. The habitat occurs over steeply sloping ground, and is marginally encroached by the permanent works boundaries and Proposed Scheme footprint for a drainage channel outfall to the River Truim, and otherwise 45m north and down-gradient of a cutting for SuDS 434, 70m north and down-gradient of cutting P9-NJ-03 and 260m north down-gradient of cuttings P9-NJ-01 and P9-NJ-02. Of these, only P9-NJ-02 is anticipated to intercept groundwater, but the area is located outwith the estimated zone of dewatering influence of this. Some marginal direct habitat loss and disturbance may occur, but this and any indirect effects are assessed to be of negligible magnitude.	Negligible	Neutral
B289	0.53	Low	Medium	Wet woodland	Other wet woodland	0.00	0.00	Area of birch woodland (W11) with local wet woodland (W7c) located to the north west of the A9 carriageway at Glen Truim. The habitat occurs over sloping ground adjacent to the east of the River Truim, outwith the permanent and temporary works boundaries beyond the Highland Mainline railway, 115m west and down-gradient of a proposed construction phase works area. No direct or indirect impacts are anticipated.	N/A	N/A
C139	0.32	Moderate	High	Wet woodland	Other wet woodland	<0.01	0.01	Area of wet woodland (W4) located to the north of the existing A9 carriageway near Nuide Farm at the base of steeply sloping ground, which falls down from an access track. The habitat is partially within the permanent works boundaries and partially encroached by the Proposed Scheme footprint for shallow cuttings for the access track. It is otherwise down-gradient of proposed embankments for the mainline, cuttings P9-NF-02, P9-NF-03, P9-NF-05, SuDS 458, SuDS 461 and compensatory flood storage area CSA 2. The topographic setting and nature of the likely water supply mechanisms to the habitat suggest it will continue to receive surface water and groundwater inputs, but may be affected through some marginal direct loss, and local drainage alterations. Potential impacts are anticipated to be direct and indirect and of negligible magnitude.	Negligible	Neutral
C61	1.75	High	Very High	Wet woodland Seepage/ flush/ spring	Other wet woodland Seepage/ flush	0.38	0.39	Area of wet woodland (W7) and mire (M6b) located to the north of the existing A9 at Lynvoan Cottage. The habitat is partially within the permanent works boundaries and the Proposed Scheme footprint for access track works, pre-earthworks drainage, a watercourse diversion and mainline earthworks. The topographic setting of the habitat, which occurs over sloping ground towards these elements suggests that it is likely to continue to receive inputs of surface water run-off and from upslope, but shallow groundwater levels may be impacted by drawdown associated with mainline widening P9-MC-19, which also partially encroaches the habitat. Some direct disturbance and habitat loss is anticipated combined with indirect effects, assessed to be of moderate magnitude.	Moderate	Large/ Very Large
A309	0.96	Moderate	High	Wet woodland Swamp	Other wet woodland Swamp	0.05	0.11	Area of wet woodland (W3) and swamp (S9b) located on flat-lying ground to the south of the existing A9 carriageway and adjacent north of the Highland Mainline railway. The habitat is partially encroached by the permanent works boundaries and the Proposed Scheme footprint for pre-earthworks drainage and watercourse diversions. The area is also at the base of proposed embankment and 65m down-gradient of an access track cutting P9-CC-01 and mainline widening P9-MC-24, at an elevation in the region of 20m below these, with limited to no drawdown of groundwater expected as a result. Groundwater flow and gradients may be impacted upslope however, together with alterations in local drainage and run-off due to the watercourse diversion and pre-earthworks drainage, which combined with elements of direct disturbance, could have a moderate magnitude of impact.	Moderate	Moderate/ Large
A659	2.36	Moderate	High	Wet woodland Wet heath	Other wet woodland Wet heath	0.22	0.38	Large area of alder woodland (W7a, W7b) with wet heath (M15b) located adjacent to the south east of the existing dual carriageway section of the A9 near Glen Truim. The habitat occurs over sloping and flat-lying ground at the base of more steeply sloping ground and is partially encroached by the permanent works boundaries and Proposed Scheme footprint for an embankment and pre-earthworks drainage. The topographic setting of the habitat suggests that it will continue to receive inputs of surface water run-off and groundwater from sloping ground to the east. However, there is also likely to be some direct habitat loss and disturbance, as well as alterations in run-off and drainage closer to the road. Potential impacts are therefore assessed to be direct and indirect and of moderate magnitude.	Moderate	Moderate/ Large
A329	0.21	Moderate	High	Wet grassland	Marshy grassland	<0.01	0.01	Area of marshy grassland (MG9a, MG9b) located on flat-lying ground to the south of the B9152 and within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil compartment). The habitat is marginally encroached by the permanent works boundaries and Proposed Scheme footprint for an embankment. It is also 55m down-gradient on the opposite side of the carriageway to mainline widening P9-MC-21 and 50m cross-gradient of the cutting for SuDS 537 and an associated access track, beyond an intervening drainage ditch. Potential impacts are anticipated to be direct and indirect and of moderate magnitude.	Moderate	Moderate/ Large
A336	3.36	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Large area of rush pasture (MG10a), mire (M23b) and grassland (U4b) located to the east of the Raitts Burn confluence with the River Spey. The habitat is located within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Balavil compartment), outwith the permanent and temporary works boundaries and to the south of the Highland Mainline railway. Cuttings for SuDS 534 and SuDS 537 with associated access tracks and shallow drainage are proposed between 50 and 100m up-gradient on the opposite side of the railway, but the habitat is located outwith the estimated zones of dewatering influence from these and it is considered unlikely that there would be any substantial alterations of possible groundwater through-flows. No direct or indirect impacts are anticipated as a result.	N/A	N/A

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A338	0.68	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of rush pasture (MG10a) and grassland (U4b) located to the south of the Highland Mainline railway and to the east of the Raitts Burn confluence with the River Spey. The habitat is outwith the permanent and temporary works boundaries and 190m south west of a proposed cutting for SuDS 537, but outwith the estimated zone of dewatering influence for this. No direct or indirect impacts are anticipated.	N/A	N/A
A339	3.07	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of rush pasture (MG10a), mire (M23b) and grassland (U4b) located within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Balavil compartment), outwith the permanent and temporary works boundaries beyond the Highland Mainline railway. Cuttings for SuDS 537 and side road drainage are proposed 70m up-gradient on the opposite side of the railway, but the habitat is located outwith the estimated zones of dewatering influence from these and it is considered unlikely that there would be any substantial alterations of possible groundwater through-flows. No direct or indirect impacts are anticipated as a result.	N/A	N/A
A340	1.63	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of marshy grassland (MG9a) and local mire (M23), located adjacent to the south of the Highland Mainline railway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). The habitat is outwith the permanent and temporary works boundaries and to the south of the Highland Mainline railway. Cutting for SuDS 534 with an associated access tracks and shallow drainage are proposed 90m up-gradient on the opposite side of the railway, but the habitat is located outwith the estimated zones of dewatering influence from these and there is unlikely to be any substantial alterations of possible groundwater through-flows. No direct or indirect impacts are anticipated as a result.	N/A	N/A
A348	0.48	Moderate	High	Wet grassland	Marshy grassland	0.22	0.14	Area of mire (M23b) located within an oblong topographic depression adjacent to the east of Chapelpark and at the base of an existing embankment to the A9 carriageway. The habitat is located almost entirely within the permanent works boundaries and Proposed Scheme footprint for SuDS 530 and an associated access track. Compensatory flood storage area cutting CSA 9 is also located adjacent to the south of the area. Potential impacts are anticipated to be direct and indirect and of major magnitude.	Major	Large/ Very Large
A352	0.04	Moderate	High	Wet grassland	Marshy grassland	0.01	0.03	Area of mire (M23b) located within a small topographic depression adjacent to the east of Chapelpark and adjacent to the north of the B9152. The habitat is located within the permanent works footprint and wider boundaries for a proposed access track associated with an underpass at Chapelpark and a watercourse diversion. Potential impacts are anticipated to be direct and of major magnitude.	Major	Large/ Very Large
A353	0.08	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of mire (M23b) located within a topographic depression and ponding location to the east of Chapelpark and adjacent to the north of the B9152. The habitat is located outwith the permanent and temporary works boundaries, but 20m down and cross-gradient of a proposed compensatory flood storage cutting CSA 9 which is likely to intercept groundwater and otherwise, down-gradient of proposed mainline embankments, drainage and SuDS 530. No direct impacts are anticipated and the topographic setting of the habitat suggests it will continue to receive surface water and run-off inputs. However, it may also be impacted by upslope and adjacent alterations in groundwater levels, drainage and near surface hydrology, assessed to be of moderate magnitude.	Moderate	Moderate/ Large
A361	0.67	High	Very High	Wet grassland	Marshy grassland	0.00	0.03	Area of mire (M23b) located on sloping/ becoming flat-lying ground adjacent to the south of the existing A9 carriageway at Lynchat. The area is marginally within the permanent works boundaries and down-gradient of proposed mainline embankments, pre-earthworks drainage, widening P9-MC-19 and an access track cutting P9-BL-01. Some minor direct habitat disturbance is anticipated to facilitate construction and the local groundwater supply to the area may be impacted indirectly due to upslope changes in groundwater levels, gradients, drainage and an increase in impermeable area. Potential impacts are anticipated to be direct and indirect and of moderate magnitude.	Moderate	Large/ Very Large
A362	1.01	High	Very High	Wet grassland	Marshy grassland	0.00	0.00	Area of mire (M23b) located on gently sloping/ flat-lying ground downslope of polygon A361, to the south of the existing A9 carriageway at Lynchat. The area is outwith the permanent and temporary works boundaries and down-gradient of proposed mainline embankments, pre-earthworks drainage, widening P9-MC-19 and an access track cutting P9-BL-01. No direct habitat disturbance is anticipated to facilitate construction, but it may be impacted indirectly due to upslope changes in groundwater levels, gradients, drainage and an increase in impermeable area. Potential impacts are anticipated to be indirect and of minor magnitude.	Minor	Moderate/ Large
A368	0.20	Moderate*	High	Wet grassland	Marshy grassland	0.00	0.05	Area of grassland (U4b) and mire (M23b) located on flat-lying ground at the fringe of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment), adjacent to the south of the Highland Mainline railway near Chapelpark. The habitat is partially located within an area identified for surface water drainage investigations. The wet vegetation within the habitat may be associated with through-flow from a drainage issues and sink to the north of the railway, which the investigations works are focused around. If these determine that alterations to the local drainage via under track crossing, outfall or soakaway are required, this and the temporary works activities may have direct and indirect effects on the habitat, assessed to be of minor magnitude.	Minor	Slight/ Moderate

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A379	0.35	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Mire (M23a) located to the south of the A9 carriageway within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Lynchat compartment). The habitat occurs over flat-lying ground at the edge of a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. The area is outwith the permanent and temporary works boundaries, 100m down-gradient of proposed mainline embankments and pre-earthworks drainage and 140m down-gradient of mainline widening P9-MC-19. The habitat lies at an elevation in the region of 20m below the widening and there are a series of cut drainage channels between the habitat and the nearest works elements. No direct or indirect impacts are anticipated.	N/A	N/A
A381	0.35	Moderate	High	Wet grassland	Marshy grassland	0.01	0.06	Area of degraded blanket mire (M25c) located adjacent to the south of the existing A9 carriageway and partially comprising existing embankment to this. The habitat partially falls within the permanent works boundaries and is marginally encroached by the Proposed Scheme footprint for an embankment and drainage. The area is also located on the opposite side of the carriageway to mainline widening P9-MC-19 which is likely to intercept groundwater, and lies across predominantly sloping ground at a lower elevation than this. The topographic setting of the habitat suggests that it could continue to receive inputs of surface water and run-off, but some direct disturbance is anticipated to facilitate construction and the local groundwater component may also be impacted by changes in levels and gradients from the upslope widening. Potential impacts are anticipated to be direct and indirect and of moderate magnitude.	Moderate	Moderate/ Large
A382	0.99	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of mire (M23b) located adjacent to the south of the existing A9 carriageway. The habitat is located outwith the permanent and temporary works boundaries, down-gradient and adjacent to the south of proposed embankments and drainage. The area is also located on the opposite side of the carriageway to mainline widening P9-MC-19 which is likely to intercept groundwater, and lies across predominantly sloping ground at a slightly lower elevation than this. The topographic setting of the habitat suggests that it will continue to receive inputs of surface water and run-off and no direct disturbance is anticipated, but the local groundwater component may be impacted by changes in levels and gradients upslope. Potential impacts are anticipated to be indirect of minor magnitude.	Minor	Slight/ Moderate
A402	0.49	Moderate	High	Wet grassland	Marshy grassland	0.00	0.07	Area of mire (M23b) located to the south of the A9 carriageway near Balavil at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat occurs over gently sloping ground, flanked by two drainage channels and is partially encroached by the permanent works boundaries for a watercourse/ drainage ditch diversion. It is otherwise located down-gradient of proposed mainline embankments, per-earthworks drainage, other watercourse diversions, and 65m south east of a cutting for SuDS 513 and an associated access track, beyond intervening drainage ditches. The habitat is located outwith estimated zone of dewatering influence from the cutting for SuDS 513 and while there are likely to be up-gradient or adjacent changes to the local near surface and ditch hydrology due to construction works, alterations in drainage and an increase of impermeable area, potential indirect effects are anticipated to be of negligible magnitude. Some direct habitat disturbance may occur however, associated with the watercourse/ drainage ditch diversion and impacts are assessed to be of minor magnitude.	Minor	Slight/ Moderate
A416	0.56	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of mire (M23a) located adjacent to the north of the Highland Mainline railway, between this and the B9152 near Kingussie. The habitat occurs in a topographic low point which is likely to receive surface water run-off from adjacent areas and is also coincident with some drainage channels which feed into the area. It is located outwith the permanent and temporary works boundaries, 30m down-gradient of a temporary construction works area and 135m down-gradient of the proposed Kingussie junction, associated embankments, pre-earthworks drainage and cutting for SuDS 509, P9-KJ-01, P9-MC-16 and compensatory flood storage area CSA 7, beyond intervening drainage channels. No direct disturbance impacts are expected and while there are likely to be up-gradient or nearby changes to the local near surface hydrology due to construction works, alterations in drainage and an increase of impermeable area, potential indirect effects are anticipated to be of minor magnitude.	Minor	Slight/ Moderate
A425	0.25	Moderate	High	Wet grassland	Marshy grassland	0.00	0.24	Area of mire (M23b) located on a low alluvial terrace to the north of the River Spey, 25m east of the proposed northern approach embankment for the River Spey bridge. The habitat occurs at the base of drier ground which slopes towards this, within the River Spey – Insh Marshes Ramsar, SPA and SSSI, and Insh Marshes SAC and is almost entirely within temporary works boundaries to facilitate construction of the proposed embankment and River Spey bridge crossing. Direct disturbance and loss of the habitat is therefore anticipated and this is assessed to be of major magnitude.	Major	Large/ Very Large
A426	0.51	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of rush pasture (MG10a) and mire (M23b) located within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat is outwith the permanent and temporary works boundaries, greater than 250m down and cross-gradient of cuttings for SuDS 507, SuDS 509 and compensatory flood storage area CSA 7, beyond the Highland Mainline railway. No direct or indirect impacts are anticipated.	N/A	N/A
A426	1.82	Moderate	High	Wet grassland	Marshy grassland	0.01	0.02	Area of rush pasture (MG10a) and mire (M23b) located within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat is partially encroached by the permanent works boundaries and Proposed Scheme footprint for a pre-earthworks drainage channel outfall to the River Spey. Some marginal direct disturbance may occur, with this and any possible indirect effects from construction works in the vicinity assessed to be of minor magnitude.	Minor	Slight/ Moderate

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A430	0.49	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of rush pasture (MG10a) and grassland (U4b) located on a low alluvial terrace along the banks of the River Spey within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Ruthven compartment). The habitat is outwith the permanent and temporary works boundaries, but located adjacent to the east of the temporary works boundaries to facilitate construction of the proposed embankment and River Spey bridge crossing. No direct impacts are anticipated and groundwater level and flow impacts in the vicinity are anticipated to be localised and minor. Given the proximity of construction works activities however, there may be indirect effects on the adjacent near surface hydrology, assessed to be of minor magnitude.	Minor	Slight/ Moderate
A438	0.25	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of marshy grassland (MG9a) located on flat-lying ground to the east of the River Spey, near Ballochbuie Island and within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Ruthven compartment) The habitat is outwith the permanent and temporary works boundaries, approximately 280m east of the proposed northern approach embankment for the River Spey bridge. The habitat is beyond the River Spey at this location and no direct or indirect impacts are anticipated.	N/A	N/A
A440	1.00	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of marshy grassland (MG9a) and grassland (U4b) located on flat-lying ground to the east of the Burn of Ruthven, near Ballochbuie Island, within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Ruthven compartment). The habitat is located outwith the permanent and temporary works boundaries, approximately 260m east of the proposed River Spey bridge, beyond the Burn of Ruthven and no direct or indirect impacts are anticipated.	N/A	N/A
A441	0.19	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of marshy grassland (MG9a) located on flat-lying ground adjacent to the east of the Burn of Ruthven, near Ballochbuie Island, within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Ruthven compartment). The habitat is outwith the permanent and temporary works boundaries, approximately 200m east of the proposed River Spey bridge, beyond the Burn of Ruthven. No direct or indirect impacts are anticipated.	N/A	N/A
A442	0.63	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of marshy grassland (MG9a) and grassland (U4b) located on flat-lying ground to the east of the Burn of Ruthven, near Ballochbuie Island, within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Ruthven compartment). The habitat is outwith the permanent and temporary works boundaries, approximately 265m east of the proposed southern approach embankment for the River Spey. The habitat is located beyond the Burn of Ruthven and no direct or indirect impacts are anticipated.	N/A	N/A
A461	0.10	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Linear area of rush pasture (MG10a) located near Ruthven Farm. The habitat occurs over sloping ground and was observed to be distinctly associated with a drainage line in the area during ecology surveys, but is outwith the permanent and temporary works boundaries, topographically level with and 260m south east of mainline widening P9-MC-14 and a cutting for SuDS 490, which are not anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
A463	0.12	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of rush pasture (MG10a) located in a topographic low adjacent to General Wade's Military Road near Ruthven Farm. The vegetation is associated with ponded wetter areas adjacent to the military road, outwith the permanent and temporary works boundaries, topographically level with and 215m south east of mainline widening P9-MC-14 and a cutting for SuDS 490, which are not anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
A464	0.44	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of rush pasture (MG10a) located adjacent to plantation woodland near the Braes of Ruthven, south of the existing A9 carriageway. The habitat occurs over sloping ground outwith the permanent and temporary works boundaries, 145m south east and up-gradient of a proposed access track cutting P9-KN-02 at Knappach and Ruthven Cottage, which is not anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
A482	0.16	Moderate	High	Wet grassland	Marshy grassland	0.00	0.16	Small area of rush pasture (MG10a) located within a wider area of drier grassland (U4b) near Ruthven Cottage. The habitat occurs over sloping ground and is located entirely within the permanent and temporary works boundaries and may be subject to direct disturbance and loss as a result. Potential impacts are therefore anticipated to be direct and of major magnitude.	Major	Large/ Very Large
A511	0.23	Moderate*	High	Wet grassland	Marshy grassland	0.11	0.03	Area of grassland (U4a) and marshy grassland (MG9a) located in a topographic depression amongst hummocky ground south of the existing A9 carriageway near Lochan an Tairbh and Torr Buidhe woodland. The habitat is partially within the permanent works boundaries and partially within the Proposed Scheme footprint for a proposed embankment and pre-earthworks drainage, occurring over sloping ground towards these. It is also located 60m north and cross-gradient of mainline widening P9-MC-12, which is not anticipated to intercept groundwater. The topographic setting suggests the portions of the habitat outwith the footprint will continue to receive surface water and groundwater inputs, but some direct habitat loss is anticipated, with a proportion that may also be affected due to the local increase of impermeable area and changes in drainage. Potential impacts are assessed to be direct and indirect of moderate magnitude.	Moderate	Moderate/ Large

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A522	0.25	Moderate	High	Wet grassland	Marshy grassland	0.06	0.15	Large area of mire (M23a) and grassland (U4a) located adjacent to the south of the existing A9 near Drumnanoich. The habitat occurs over low and flat-lying ground and is surrounded by a wider rush pasture, mire and grassland mosaic and is almost entirely within the permanent works boundaries and partially within the Proposed Scheme footprint for a proposed embankment, pre-earthworks drainage and a watercourse diversion. It is also located on the opposite side of the carriageway to cutting P9-NF-02, though this is not anticipated to intercept groundwater. A reasonable proportion of direct habitat loss and disturbance is anticipated, with the remaining area likely to be affected by minor groundwater change due to the embankment, the local increase of impermeable area and changes in drainage. Potential impacts are anticipated to be direct and of major magnitude.	Major	Large/ Very Large
B35	0.24	Moderate	High	Wet grassland	Marshy grassland	0.12	0.06	Area of rush pasture (MG10a) located adjacent to the north west of the existing A9 carriageway near Balavil. The habitat is located almost entirely within the permanent works boundaries and almost entirely encroached by the Proposed Scheme footprint for embankments and pre-earthworks drainage. The topographic setting suggests the portions of the habitat outwith the footprint could continue to receive surface water and run-off inputs, but this is likely to be altered. Some direct habitat loss is therefore anticipated, with a proportion that may also be affected due to the local increase of impermeable area and drainage alterations. Potential impacts are assessed to be direct and indirect and of major magnitude.	Major	Large/ Very Large
B38	0.09	Moderate	High	Wet grassland	Marshy grassland	0.06	0.03	Area of rush pasture (MG10a) located adjacent to the north west of the existing A9 carriageway near Balavil. The habitat is located almost entirely within the permanent works boundaries and almost entirely encroached by the Proposed Scheme footprint for embankments and pre-earthworks drainage. The topographic setting suggests the portions of the habitat outwith the footprint could continue to receive surface water and run-off inputs, but this is likely to be altered. Some direct habitat loss is therefore anticipated, with a proportion that may also be affected due to the local increase of impermeable area and drainage alterations. Potential impacts are assessed to be direct and indirect of major magnitude.	Major	Large/ Very Large
B66	0.05	Low	Medium	Wet grassland	Marshy grassland	0.00	0.00	Area of rush pasture (MG10a) to the north west of the existing A9 carriageway at Kerrow Cottage. The habitat occurs in a topographic low and is coincident with a cut drainage channel, outwith the permanent and temporary works boundaries, 50m north and up-gradient of a proposed access track and pre-earthworks drainage at Kerrow Cottage, 75m north and up-gradient of proposed mainline embankments and pre-earthworks drainage, and between 120 and 180m north and up-gradient of mainline widening P9-MC-16, cutting P9-KJ-01 and SuDS 509, none of which are anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
B67	0.05	Low	Medium	Wet grassland	Marshy grassland	0.00	0.00	Area of rush pasture (MG10a) to the north west of the existing A9 carriageway at Kerrow Cottage. The habitat occurs in a topographic low and is coincident with a cut drainage channel, outwith the permanent and temporary works boundaries, 75m north west and up-gradient of a proposed access track and pre-earthworks drainage at Kerrow Cottage, 90m north and up-gradient of proposed mainline embankments and pre-earthworks drainage, and between 130 and 200m north and up-gradient of mainline widening P9-MC-16, cutting P9-KJ-01 and SuDS 509, none of which are anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
B72	0.04	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of mire (M23a) occurring over thin rocky soils to the north of the existing A9. The habitat is located outwith the permanent and temporary works boundaries, 70m north west and up-gradient of a proposed watercourse diversion near Kerrow and 175m north west and up-gradient of mainline embankments, pre-earthworks drainage and access tracks. The habitat is elevated relative to the proposed works (in the region of 10m) and is outwith the zone of dewatering influence for the nearest area of cutting (SuDS 513). No direct or indirect impacts are anticipated.	N/A	N/A
B81	0.13	Low	Medium	Wet grassland	Marshy grassland	0.00	0.00	Area of rush pasture (MG10a) to the north west of the existing A9 carriageway at Kerrow Cottage. The habitat is located outwith the permanent and temporary works boundaries, 30m north west and up-gradient of a proposed access track and pre-earthworks drainage at Kerrow Cottage, 125m north west and up-gradient of proposed mainline embankments and pre-earthworks drainage, and between 220 and 250m north west and up-gradient of mainline widening P9-MC-16, cutting P9-KJ-01 and SuDS 509, none of which are anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
B82	0.19	Low	Medium	Wet grassland	Marshy grassland	0.00	0.00	Area of rush pasture (MG10a) to the north west of the existing A9 carriageway at Kerrow Cottage. The habitat is located outwith the permanent and temporary works boundaries, 100m north west and up-gradient of a proposed access track and pre-earthworks drainage at Kerrow Cottage, 200m north west and up-gradient of proposed mainline embankments and pre-earthworks drainage, and at least 250m north west and up-gradient of mainline widening P9-MC-16, cutting P9-KJ-01 and SuDS 509, none of which are anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A

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B83	0.20	Low	Medium	Wet grassland	Marshy grassland	0.00	0.00	Area of rush pasture (MG10a) to the north west of the existing A9 carriageway at Kerrow Cottage. The habitat is located outwith the permanent and temporary works boundaries, 30m north west and up-gradient of a proposed access track and pre-earthworks drainage at Kerrow Cottage, 125m north west and up-gradient of proposed mainline embankments and pre-earthworks drainage, and between 220 and 250m north west and up-gradient of mainline widening P9-MC-16, cutting P9-KJ-01 and SuDS 509, none of which are anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
B100	0.51	Moderate	High	Wet grassland	Marshy grassland	0.00	0.19	Area of marshy grassland and rush pasture (MG9, MG10a) located adjacent to the north west of the A9 carriageway near where it crosses the River Spey. The habitat occurs over flat-lying ground at the base of the existing road embankment within the Insh Marshes NNR (Ruthven compartment). It is partially encroached by the permanent and temporary works boundaries, so a proportion will be subject to some direct disturbance and loss as a result, as well local disruption to the near surface hydrology in the immediate vicinity due to removal of the existing A9 carriageway and construction of the new southern approach embankment for the River Spey bridge. Potential impacts are anticipated to be direct and indirect and of moderate magnitude.	Moderate	Moderate/ Large
B110	1.22	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of marshy grassland and rush pasture (MG9, MG10a) located to the north west of the A9 carriageway near Ruthven. The habitat occurs at the margins of the River Spey – Insh Marshes Ramsar, SPA and SSSI and River Spey SAC in a topographic basin at the base of an embankment to the existing road. It is located outwith the permanent and temporary works boundaries, adjacent to the north and north-west of proposed mainline embankments and drainage, and between 10 and 30m down-gradient of cutting P9-KN-01 and SuDS 490, which are not anticipated to intercept groundwater. No direct impacts on the habitat are anticipated and the topographic setting suggests that it is likely to continue to receive surface water and run-off inputs, and while this may be locally altered, potential indirect effects are assessed to be no more than negligible at the level of the habitat.	Negligible	Neutral
B113	0.04	Low	Medium	Wet grassland	Marshy grassland	0.00	0.00	Marshy grassland (MG9b) to the north west of the existing A9 carriageway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and River Spey SAC. The habitat occurs on the banks of the River Spey and is coincident with a bar location/ secondary channel of this in the direction of its flow. It is located outwith the permanent and temporary works boundaries, 80m north of a pre-earthworks drainage channel outfall to the River Spey, and otherwise, 220m north west of proposed mainline embankments, pre-earthworks drainage and cuttings P9-KN-01 and SuDS 490, which are not anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
B119	0.03	Moderate	High	Wet grassland	Marshy grassland	<0.01	0.03	Rush pasture (MG10a) located to the north of the existing A9 carriageway on sloping ground along the banks of the Burn of Inverton. The habitat is located entirely within the permanent works boundaries, partially by the Proposed Scheme footprint for a pre-earthworks drainage channel and may be subject to direct disturbance and loss as a result. Potential impacts are therefore anticipated to be direct and of major magnitude.	Major	Large/ Very Large
B122	0.75	Moderate	High	Wet grassland	Marshy grassland	0.01	0.02	Large linear area of mire (M23a) located to the north of the existing A9 carriageway on sloping ground along the northern banks of the Burn of Inverton. The habitat is located marginally within the permanent works boundaries and partially encroached by a pre-earthworks drainage channel to the watercourse and down-gradient of proposed embankments, shallow cuttings for an access track, mainline widening P9-MC-12 and a cutting for SuDS 474, which are not anticipated to intercept groundwater. The vast majority of the habitat area occurs outwith the proposed works areas and extends along the banks of the Burn of Inverton. Therefore, while some marginal direct habitat loss and disturbance is expected, this is assessed to be of negligible magnitude.	Negligible	Neutral
B134	0.05	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of mire (M23a, M23b, M27) and marshy grassland (MG9) located to the north of the existing A9, along the banks of the Burn of Inverton. The habitat is located outwith the permanent and temporary works boundaries, 190m north east and down-gradient of a cutting for SuDS 474 and 250m north east and down-gradient of mainline widening P9-MC-12, neither of which are anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
B151	0.04	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of mire (M23a, M4) located to the north of the existing A9 carriageway and adjacent to Lochan an Tairbh. The habitat occurs in a topographic basin amongst kame and kettle terrain, outwith the permanent and temporary works boundaries, 90m north and down-gradient of proposed mainline embankments, watercourse diversions and pre-earthworks drainage, and 170m north east and down-gradient of mainline widening P9-MC-12, which is not anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
B158	0.11	Moderate*	High	Wet grassland	Marshy grassland	0.01	0.10	Area of predominantly dry grassland (U4) and patchy calcareous grassland (CG10a), located entirely within the permanent and temporary works boundaries on sloping ground, partially encroached by the Proposed Scheme footprint for pre-earthworks drains, mainline embankments and compensatory flood storage area CSA 2. It is otherwise also down or cross-gradient of cuttings P9-NF-02, P9-NF-03, P9-NF-05, SuDS 458 and SuDS 461. The topographic setting and nature of the likely water supply mechanisms to the habitat suggest it will continue to receive surface water and run-off inputs, but it is likely to be affected through a reasonable proportion of direct loss and disturbance, the local increase in impermeable areas and drainage alterations. Potential impacts are therefore anticipated to be direct and of major magnitude.	Major	Large/ Very Large

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B161	0.05	Moderate*	High	Wet grassland	Marshy grassland	0.00	0.04	Area of predominantly dry grassland (U4) and patchy calcareous grassland (CG10a), located almost entirely within the permanent works boundaries. The topographic setting and nature of the likely water supply mechanisms to the habitat suggest it will continue to receive surface water and run-off inputs, but it is likely to be affected through a reasonable proportion of direct loss and disturbance and local drainage alterations. Potential impacts are therefore anticipated to be direct and of major magnitude.	Major	Large/ Very Large
B161	1.78	Moderate*	High	Wet grassland	Marshy grassland	0.55	1.23	Area of predominantly dry grassland (U4) and patchy calcareous grassland (CG10a), located almost entirely within the permanent works boundaries and Proposed Scheme footprint for mainline embankments, pre-earthworks drainage, SuDS 458, watercourse diversions and compensatory flood storage area CSA 2. The topographic setting and nature of the likely water supply mechanisms to the habitat suggest it will continue to receive surface water and run-off inputs, but it is likely to be affected through a reasonable proportion of direct loss and disturbance and local drainage alterations. Potential impacts are therefore anticipated to be direct and of major magnitude.	Major	Large/ Very Large
B181	0.04	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of mire (M23a) located to the north of the existing A9 carriageway near Nuide Farm. The habitat is located in a topographic low adjacent to the Allt Eoghainn watercourse and is identifiable as a surface water feature ponding location on current OS mapping. It is located outwith the permanent and temporary works boundaries, but down-gradient of access track embankments and a watercourse diversion. It is also down-gradient of proposed embankments for the mainline, cuttings P9-NF-02, P9-NF-03, P9-NF-05, SuDS 458, SuDS 461 and compensatory flood storage area CSA 2. No direct disturbance will occur and the local hydrology suggests the habitat will continue to receive surface water and run-off inputs. However, it may be indirectly affected by the proposed works upslope due to the local increase in impermeable areas and drainage alterations. Potential impacts are therefore anticipated to be indirect but of minor magnitude.	Minor	Slight/ Moderate
B183	0.90	Moderate	High	Wet grassland	Marshy grassland	<0.01	0.01	Area of rush pasture (MG10a) located to the north west of the existing A9 and to the east of Ralia Lodge. The habitat occurs in a shallow topographic basin which is drained, coincident with a cut drainage channel and is partially encroached by the permanent works boundaries and Proposed Scheme footprint for a watercourse diversion. The area is otherwise predominantly outwith the permanent and temporary works boundaries, but 45m down-gradient of proposed mainline embankments, some areas of shallow access track widening and 80m down-gradient on the opposite side of the carriageway to the southern extent of mainline cutting P9-MC-07, which is anticipated to intercept groundwater. The habitat is located at an elevation in the region of 15m below the cutting, with limited to no drawdown of groundwater levels expected as a result of this. However, groundwater flow and gradients may be impacted upslope by the cutting (which may require inclusion of rock traps, retaining walls and/ or platform benching), which together with alterations in local drainage and run-off due to the embankment and access track works may have indirect effects. Based on the scale of encroachment from the works areas and the nature of the cutting relative to the local topography, potential indirect impacts are anticipated to be direct and indirect and of minor magnitude.	Minor	Slight/ Moderate
B184	0.61	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Area of mire (M23a), marshy grassland and rush pasture (MG9, MG10a) located to the north west of the existing A9 near Braes of Nuide, within the River Spey – Insh Marshes Ramsar, SPA and SSSI and River Spey SAC boundaries. The habitat occurs over flat-lying ground at the base of steeply sloping areas of woodland, outwith the permanent and temporary works boundaries, but 45m down-gradient of proposed mainline embankments, some areas of shallow access track widening and 105m down-gradient on the opposite side of the carriageway to mainline cutting P9-MC-07, which is anticipated to intercept groundwater. The habitat is located at an elevation in the region of 40m below the cutting, with very limited to no drawdown of groundwater levels expected as a result. Groundwater flow and gradients are likely to be impacted upslope by the cutting (which may require inclusion of rock traps, retaining walls and/ or platform benching), together with alterations in local drainage and run-off due to the embankment and access track works. Based on the nature of the works relative to the local topography however, potential indirect impacts are anticipated to be no more than negligible in magnitude at the level of the habitat.	Negligible	Neutral
B292	0.05	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Small pocket of marshy grassland (MG9) located to the west of the A9 carriageway near Glen Truim. The habitat occurs over sloping ground outwith the permanent and temporary works boundaries beyond the Highland Mainline railway, 110m west and down-gradient of proposed mainline embankments and drainage at the southern tie-in to the existing dual carriageway at Glen Truim, but located 10m south and cross-gradient of a proposed construction phase access area adjacent to the Bridge of Truim. No direct impacts are anticipated, with potential indirect effects assessed to be of negligible magnitude.	Negligible	Neutral
C6	0.17	Low	Medium	Wet grassland	Marshy grassland	0.07	0.10	Area of marshy grassland (MG9b) located adjacent to the north of the A9 carriageway near Meadowside, located between an access track for the quarry near here and the existing road. The habitat is located entirely within the permanent works boundaries and Proposed Scheme footprint for cutting P9-CC-01 and a pre-earthworks drainage channel. Potential impacts are anticipated to be direct and of major magnitude.	Major	Large

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C15	0.17	Low	Medium	Wet grassland	Marshy grassland	0.05	0.12	Area of rush pasture (MG10a) adjacent to the north of the A9 carriageway near Croftcarnoch. The habitat occurs in a topographic low directly adjacent to the existing road, entirely within the permanent works boundaries and Proposed Scheme footprint for pre-earthworks drainage, mainline widening P9-MC-22, a watercourse diversion and an access track. Potential impacts are anticipated to be direct and of major magnitude.	Major	Large
C16	0.16	Low	Medium	Wet grassland	Marshy grassland	0.02	0.08	Area of rush pasture (MG10a) to the north of the existing A9 carriageway near Croftcarnoch. The habitat is located almost entirely within the permanent works boundaries and partially within the Proposed Scheme footprint for a proposed access track and drainage and a watercourse diversion. The habitat occurs in a topographic low and is already coincident existing cut drainage in the area and is likely to continue to receive inputs of surface water and run-off. Some direct habitat loss will occur however, with a proportion that may also be affected due to further alterations in the local drainage. On balance, potential impacts are assessed to be direct and indirect and of moderate magnitude.	Moderate	Moderate
C18	0.40	Low	Medium	Wet grassland	Marshy grassland	0.06	0.23	Area of rush pasture (MG10a) to the north of the existing A9 carriageway near Croftcarnoch. The habitat is located partially within the permanent works boundaries and partially within the Proposed Scheme footprint for a proposed access track and drainage. It occurs in a topographic low and is already coincident existing cut drainage in the area and is likely to continue to receive inputs of surface water and run-off. Some direct habitat loss will occur however, with a proportion that may also be affected due to further alterations in the local drainage. On balance, potential impacts are assessed to be direct and indirect and of moderate magnitude.	Moderate	Moderate
C19	0.47	Low*	Medium	Wet grassland	Marshy grassland	0.12	0.14	Area of grassland (MG6) and local mire (M23b) located to the north of the existing A9 carriageway at Croftcarnoch. The habitat is located almost entirely within the permanent works boundaries and partially within the Proposed Scheme footprint for a proposed access track and drainage works. The habitat is already coincident existing cut drainage in the area and is likely to continue to receive inputs of surface water and run-off. Some direct habitat loss will occur however, with a proportion that may also be affected due to further alterations via drainage. Potential impacts are assessed to be direct and indirect and of moderate magnitude.	Moderate	Moderate
C27	0.81	Moderate	High	Wet grassland	Marshy grassland	<0.01	0.17	Area of rush pasture (MG10a) to the north of the A9 carriageway near Croftcarnoch. The habitat occurs in a slight topographic low adjacent to the existing carriageway, flanked by two access tracks to the residential properties in the area. It is partially encroached by the permanent works boundaries and the Proposed Scheme footprint for pre-earthworks drainage and a watercourse diversion, adjacent to the north and topographically level with mainline cutting P9-MC-22, wholly within the estimated zone of dewatering influence of this. Some direct habitat disturbance and loss may occur and a proportion is also likely to be affected due to alterations in the local drainage and groundwater levels and flows. Potential impacts are anticipated to be direct and indirect and of major magnitude.	Major	Large/ Very Large
C36	0.39	Moderate	High	Wet grassland	Marshy grassland	0.00	0.00	Linear area of rush pasture (MG10a) occurring at the base of a glacial meltwater channel to the north of the existing A9 near Balavil. The habitat occurs over sloping ground and is partially associated with cut drainage channels in the area, outwith the permanent and temporary works boundaries, 85m north and up-gradient of proposed watercourse diversions and 150 and 200m north and up-gradient of cutting P9-BL-03 and mainline widening P9-MC-20. Of these, only cutting P9-BL-03 has been assessed as likely to intercept groundwater and the habitat is outwith the estimated zone of dewatering influence for this. No direct or indirect impacts are anticipated.	N/A	N/A
C65	0.08	High	Very High	Wet grassland	Marshy grassland	0.03	0.05	Area of mire (M23a) located to the north of the existing A9 at Lynvoan Cottage near Lynchat. The habitat is located entirely within the permanent works boundaries and/ or Proposed Scheme footprint for mainline widening P9-MC-19, access track and pre-earthworks drainage works near Lynvoan Cottage. Given the habitat is almost entirely within the permanent works boundaries and/ or footprint of these features, potential impacts are anticipated to be direct and of major magnitude.	Major	Very Large
C82	0.21	Moderate*	High	Wet grassland	Marshy grassland	0.01	0.08	Area of calcifugous (U4a, U20a) and calcareous grassland (CG10a) located adjacent to the north of the existing A9 carriageway and to the west of Allt Cealgach. The habitat is partially within the permanent works boundaries and partially encroached by the Proposed Scheme footprint for pre-earthworks drainage and mainline widening P9-MC-18, occurring over sloping ground towards these. The widening is not anticipated to intercept groundwater and the topographic setting suggests the habitat will continue to receive surface water run-off inputs. Some marginal habitat loss and alterations in the local shallow drainage are anticipated however, with potential impacts assessed to be direct and indirect of moderate magnitude.	Moderate	Moderate/ Large
C94	0.43	Moderate	High	Wet grassland	Marshy grassland	<0.01	0.03	Large linear area of rush pasture (MG10a, MG11a) which emerges from an area of woodland to the north of the A9, south west of Upper Raitts and runs towards the existing carriageway. The habitat area emerges at two points from the woodland, at the base of steeply sloping gullies and the lower end of the habitat is partially encroached by the permanent works boundaries and Proposed Scheme footprint for a watercourse diversion. The vast majority of the habitat occurs up-gradient and outwith the boundaries over sloping ground and no areas of mainline widening or cutting in the vicinity (P9-MC-17 and P9-MC-18) have been identified as being likely to intercept groundwater. The habitat is therefore likely to continue to receive surface water, run-off and groundwater inputs and although some marginal direct disturbance and loss may occur, this is assessed to be no more than minor in magnitude.	Minor	Slight/ Moderate

Polygon ID	Total Area (ha)	Likely Groundwater Dependence	Sensitivity	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Total Area within Proposed Scheme footprint (ha)	Total Area within Land Made Available (ha)	Description of Potential Impacts (including Direct Effects/ Disturbance and Indirect Effects/ Disturbance from Nearest Earthworks Likely to Intercept Groundwater)	Magnitude	Significance
C100	0.07	Moderate*	High	Wet grassland	Marshy grassland	0.00	0.00	Area of calcifugous (U4a) and local calcareous grassland (CG10a) occurring over thin rocky soils to the north of the existing A9 and north east of Kerrow. The habitat occurs over sloping ground outwith the permanent and temporary works boundaries, 70m north west and up-gradient of a proposed watercourse diversion and 175m north west and up-gradient of mainline embankments, pre-earthworks drainage and access tracks. The habitat is elevated relative to the proposed works (in the region of 10m) and is outwith the zone of dewatering influence for the nearest area of cutting (SuDS 513). No direct or indirect impacts are anticipated.	N/A	N/A
C105	0.83	Moderate*	High	Wet grassland	Marshy grassland	0.15	0.16	Area of predominantly dry heath (H10a, H10d), grassland (U4a) and local calcareous grassland (CG10a) located adjacent to the north of the existing A9 carriageway at Drumnanoich. The habitat occurs over steeply sloping ground at the base of back slope terraced ground on thin rocky soils. It is partially within the permanent works boundaries and partially within the Proposed Scheme footprint for mainline and access track embankments, pre-earthworks drainage and cutting P9-NF-12, which is not anticipated to intercept groundwater. The habitat occurs over sloping ground up and/ or cross-gradient of these Proposed Scheme elements, with the topographic setting suggesting the sub-dominant wet elements are likely to continue to receive surface water run-off inputs. Some direct habitat loss is anticipated however, with a proportion that may also be indirectly affected due to the local changes in shallow drainage. Potential impacts are therefore assessed to be direct and indirect of moderate magnitude.	Moderate	Moderate/ Large
C109	0.16	Moderate*	High	Wet grassland	Marshy grassland	0.12	0.02	Area of grassland (U4a) and calcareous grassland (CG10a) located adjacent to the north of the existing A9 carriageway at Drumnanoich. The habitat is almost entirely within the permanent works boundaries and the Proposed Scheme footprint for pre-earthworks drainage, access tracks and cutting P9-NF-12. Potential impacts are assessed to be direct and of major magnitude.	Major	Large/ Very Large
C110	1.75	Moderate*	High	Wet grassland	Marshy grassland	0.62	0.57	Area of grassland (U4b, U1b), dry heath (H10a) and calcareous grassland (CG10a) located adjacent to the north of the existing A9 carriageway at Drumnanoich. The habitat is partially within the permanent works boundaries and partially within the Proposed Scheme footprint for pre-earthworks drainage and cuttings P9-NF-11 and P9-NF-12, which are not anticipated to intercept groundwater. The habitat occurs over sloping ground up and/ or cross-gradient of these Proposed Scheme elements, with the topographic setting suggesting it will continue to receive surface water run-off inputs. Some direct habitat loss is anticipated however, with a proportion that may also be affected due to the local changes in shallow drainage. Potential impacts are therefore assessed to be direct and indirect of moderate magnitude.	Moderate	Moderate/ Large
C142	1.04	Moderate*	High	Wet grassland	Marshy grassland	0.05	0.03	Area of mesotrophic grassland (MG6), grassland (U4b), open vegetation (OV25a) and calcareous grassland (CG10a) located to the north of the existing A9 carriageway near Nuide Farm at the edge of an area of kames and eskers. The habitat is partially within the permanent works boundaries and partially encroached by the Proposed Scheme footprint for cutting P9-NF-10 and other shallow access track cuttings near Nuide. It is otherwise both down and up-gradient of proposed embankments for the mainline, cuttings P9-NF-02, P9-NF-03, P9-NF-05, SuDS 458, SuDS 461 and compensatory flood storage area CSA 2. The vast majority of the habitat area occurs outwith the proposed works areas across variable glaciofluvial landforms and while some marginal direct habitat loss and disturbance is expected, this and potential indirect effects are assessed to be of negligible magnitude.	Negligible	Neutral
C142	0.40	Moderate*	High	Wet grassland	Marshy grassland	0.00	0.00	Area of mesotrophic grassland (MG6), grassland (U4b), open vegetation (OV25a) and calcareous grassland (CG10a) located to the north of the existing A9 carriageway near Nuide Farm at the edge of an area of kames and eskers. The habitat is located outwith the permanent and temporary works boundaries, 125m north west and up-gradient of cuttings P9-NF-06 and P9-NF-10 near Nuide, none of which are anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
C145	0.32	Moderate*	High	Wet grassland	Marshy grassland	0.03	0.03	Area of mesotrophic grassland (MG6) and calcareous grassland (CG10a) adjacent to the north of the existing A9 near Nuide Farm, surrounding a small water-filled kettle hole. The habitat is partially located within the permanent works boundaries, partially within the Proposed Scheme footprint for drainage and cuttings P9-NF-06 and P9-NF-08, and on the opposite side of the carriageway to mainline widening P9-MC-10. The wet vegetation in the habitat occurs around a small water-filled kettle hole and will not be substantially encroached, with the excavations in the vicinity also all assessed as being unlikely to intercept groundwater. Some alteration in the local surface water and run-off supply mechanisms to parts of the habitat are likely, due to up-gradient local increase of impermeable area and drainage alterations, but these are assessed to be of minor magnitude.	Minor	Slight/ Moderate
C146	5.79	Moderate*	High	Wet grassland	Marshy grassland	0.06	0.05	Large area of grassland (U4a, U4b), calcareous grassland (CG10a) and dry heath (H10d) located to the north of the existing A9 carriageway near Nuide Farm across an area of kames and eskers. The habitat is partially and marginally within the permanent works boundaries and partially encroached by the Proposed Scheme footprint for pre-earthworks drainage and cuttings P9-NF-06 and P9-NF10 near Nuide. The vast majority of the habitat area occurs outwith and up-gradient of the closest proposed works areas across variable glaciofluvial landforms. Therefore, while some marginal direct habitat loss and disturbance is expected, this and potential indirect effects are assessed to be of negligible magnitude.	Negligible	Neutral

Polygon ID	Total Area (ha)	Likely Groundwater Dependence	Sensitivity	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Total Area within Proposed Scheme footprint (ha)	Total Area within Land Made Available (ha)	Description of Potential Impacts (including Direct Effects/ Disturbance and Indirect Effects/ Disturbance from Nearest Earthworks Likely to Intercept Groundwater)	Magnitude	Significance
C147	1.48	Moderate*	High	Wet grassland	Marshy grassland	0.63	0.17	Area of mesotrophic grassland (MG6), grassland (U4b), open vegetation (OV25a) and calcareous grassland (CG10a) located to the north of the existing A9 carriageway near Nuide Farm at the edge of and within an area of kames and eskers. The habitat is partially within the permanent works boundaries and partially encroached by the Proposed Scheme footprint for drainage, SuDS 461 and areas of embankment and cuttings (P9-NF-06, P9-NF-10) for the proposed Nuide Farm access. The majority of the habitat area occurs outwith and up-gradient of the closest proposed works areas across variable glaciofluvial landforms, with such a topographic setting suggesting it will continue to receive surface water run-off inputs. Some reasonable direct habitat loss is anticipated however, with this and potential indirect impacts assessed to be of moderate magnitude.	Moderate	Moderate/ Large
B54	1.65	Moderate*	High	Wet grassland Wet woodland	Marshy grassland Other wet woodland	0.00	<0.01	Area of grassland (U4, MG1), mire (M23a), open vegetation (OV25, OV27) and local wet woodland (W6), located to the north west of the existing A9 around the Glebe ponds at Kingussie. The habitat is marginally within the permanent works boundaries at Glebe ponds and down-gradient of works in the vicinity of Kingussie junction – comprising embankments, drainage and a cutting for SuDS 507, which is likely to intercept groundwater. The wet vegetation within the habitat is a sub-dominant component, occurring at the margins of the ponds, which are outwith the zone of dewatering influence from SuDS 507 and will not be directly encroached. Some alteration in the local surface water and run-off supply mechanisms to the overall habitat are likely, due to up-gradient increase of impermeable area and drainage alterations, but these are assessed to be of negligible magnitude.	Negligible	Neutral
A524	10.83	Moderate	High	Wet grassland Seepage/ flush/ spring	Marshy grassland Seepage/ flush	0.41	1.61	Large expanse of mire (M23a, M6a, M6d) and grassland (U4a) located adjacent to the south of the existing A9 near Drumnanoich. The habitat occurs over a large area of low and flat-lying ground, partially within the permanent works boundaries and partially within the Proposed Scheme footprint for a proposed embankment, pre-earthworks drainage and a watercourse diversions. It is also located on the opposite side of the carriageway to cuttings P9-NF-11 and P9-NF-02, though these are not anticipated to intercept groundwater. Some direct habitat loss and disturbance is anticipated, with a proportion also likely to be affected by minor groundwater change due to the embankment, the local increase of impermeable area and changes in drainage. Potential impacts are anticipated to be direct and indirect and of moderate magnitude.	Moderate	Moderate/ Large
B179	1.84	Moderate	High	Wet grassland Seepage/ flush/ spring	Marshy grassland Seepage/ flush	0.00	0.02	Area of rush pasture (MG10a), grassland (U4) and mire (M23a, M6) located to the north of the existing A9 at Nuide Farm. The habitat is partially within the permanent works boundaries and partially encroached by the Proposed Scheme footprint for access track embankments and a watercourse diversion near Nuide. It is otherwise down-gradient of proposed embankments for the mainline, cuttings P9-NF-02, P9-NF-03, P9-NF-05, SuDS 458, SuDS 461 and compensatory flood storage area CSA 2, beyond the Allt Eoghainn watercourse. The vast majority of the habitat area occurs outwith and down-gradient of the works and the local topographic setting suggests it will continue to receive surface water run-off and groundwater inputs beyond the watercourse. Some marginal direct loss is expected, but potential impacts are anticipated to be of negligible magnitude.	Negligible	Neutral
A344	1.20	Moderate	High	Wet grassland Swamp	Marshy grassland Swamp	0.00	0.00	Area of rush pasture (MG10a) and mire (M23b) at the edge of sub-dominant swamp (S9a, S10b, S4a) in the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Lynchat compartment). The area is outwith the permanent and temporary works boundaries beyond the Highland Mainline railway, over generally flat-lying ground. Cuttings for compensatory flood storage area CSA 9 and SuDS 534 side road drainage are proposed between 60 and 130m up-gradient on the opposite side of the railway, but the habitat is located outwith the estimated zones of dewatering influence from these. No direct or indirect impacts are anticipated.	N/A	N/A
A386	0.96	Moderate	High	Wet grassland Swamp	Marshy grassland Swamp	0.02	0.08	Mire (M23a), swamp (S9a) and marshy grassland (MG9a) located to the south of the A9 carriageway at the base of an existing embankment for this. The habitat is located at the very edge of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). It is marginally encroached by the permanent works boundaries and the Proposed Scheme footprint for pre-earthworks drainage and watercourse diversions, and otherwise, adjacent to a potential construction works area and down-gradient of proposed mainline embankments and other drainage. Some marginal direct habitat loss and disturbance may occur and there are likely to be up-gradient and local changes to the near surface hydrology due to alterations in drainage and an increase of impermeable area. However, the topographic setting of the habitat also suggests it is likely to continue to receive surface water run-off and groundwater inputs. Potential impacts are anticipated to be direct and indirect and of moderate magnitude.	Moderate	Moderate/ Large
A435	0.54	Moderate	High	Wet grassland Swamp	Marshy grassland Swamp	0.00	0.00	Area of mire (M23b) and swamp (S9a) within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Ruthven compartment). The habitat is located outwith the permanent and temporary works boundaries, approximately 210m east of the proposed southern approach embankment for the River Spey bridge, the proposed bridge crossing and temporary works areas for this. No direct impacts on the habitat are anticipated, but it is potentially connected to the proposed works via polygon 443 which may be disturbed directly and indirectly. Based on the assessment for this and considering the proximity of the habitat, potential impacts are assessed to be indirect and of minor magnitude.	Minor	Slight/ Moderate

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A437	1.19	Moderate	High	Wet grassland Swamp	Marshy grassland Swamp	0.00	0.00	Area of mire (M23b), rush pasture (MG10a) and swamp (S9a) located on a low alluvial terrace to the east of the River Spey, near Ballochbuie Island and within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Ruthven compartment). The habitat is outwith the permanent and temporary works boundaries, approximately 175m east of the proposed northern approach embankment for the River Spey bridge. The habitat is located beyond the River Spey at this location and no direct or indirect impacts are anticipated.	N/A	N/A
A443	1.19	Moderate	High	Wet grassland Swamp	Marshy grassland Swamp	0.00	0.02	Area of mire (M23b) and swamp (S11a, S9a) located adjacent to the east of the existing A9 carriageway, within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Ruthven compartment). The habitat is marginally encroached by the temporary works boundaries to facilitate construction of the proposed embankment and River Spey bridge crossing. Some direct disturbance is therefore anticipated and although groundwater level and flow impacts in the vicinity are anticipated to be localised and minor, direct encroachment of the area as a result of construction activities may affect near surface inflows to which the habitat may be sensitive. Potential impacts are therefore anticipated to be direct and indirect and of moderate magnitude.	Moderate	Moderate/ Large
A444	0.27	Moderate	High	Wet grassland Swamp	Marshy grassland Swamp	0.00	0.00	Area of marshy grassland (MG9a) and swamp (S11a, S9a) located to the east of the existing A9 carriageway, within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Ruthven compartment). The habitat is outwith the permanent and temporary works boundaries, approximately 255m east of the proposed southern approach embankment for the River Spey bridge at Ruthven. The habitat is located beyond the Burn of Ruthven at this location and no direct or indirect impacts are anticipated.	N/A	N/A
A445	0.50	Moderate	High	Wet grassland Swamp	Marshy grassland Swamp	0.00	0.00	Area of mire (M23b) and swamp (S11a) located adjacent to the east of the existing A9 carriageway, within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Ruthven compartment). The habitat is outwith the permanent and temporary works boundaries, 30m south of the permanent works boundaries for the proposed southern approach embankment for the River Spey bridge. No direct impacts are expected and potential indirect effects are anticipated to be no more than minor in magnitude.	Minor	Slight/ Moderate
A450	1.82	High	Very High	Wet grassland Swamp	Marshy grassland Swamp	0.00	0.00	Area of mire (M23a) and swamp (S10b) located to the south east of the A9 carriageway at the fringes of and partially within the Insh Marshes NNR (Ruthven compartment). The habitat is located outwith the permanent and temporary works boundaries adjacent to Ruthven Barracks, approximately 100m of the cutting for SuDS 493 and topographically level with it. Although the cutting is likely to intercept groundwater, the habitat is outwith the estimated zone of dewatering influence from this and is situated beyond an intervening cut drainage channel through the area. No direct or indirect impacts are anticipated.	N/A	N/A
A457	12.84	Moderate	High	Wet grassland Swamp	Marshy grassland Swamp	2.24	0.81	Area of marshy grassland and rush pasture (MG9a, MG10a), grassland (U4b) with local mire (M23a) and swamp (S9a) on flat-lying ground adjacent to the south east of the existing A9 approach embankment to the River Spey bridge within the Insh Marshes NNR (Ruthven compartment). The habitat is partially within the permanent works boundaries and partially within the Proposed Scheme footprint for SuDS 493, an associated access track and the proposed new southern approach embankment for the River Spey bridge at Ruthven. Some direct habitat loss is therefore anticipated and although some minor changes to near surface hydrology and shallow groundwater levels and flow may also be expected, this is unlikely to have any lasting discernible effect on the majority of the habitat area beyond the extent of the construction areas and new infrastructure in the longer-term. Potential impacts are nevertheless, assessed to be of moderate magnitude on account of the direct loss and disturbance.	Moderate	Moderate/ Large
A458	0.99	Moderate*	High	Wet grassland Swamp	Marshy grassland Swamp	0.72	0.24	Area of grassland (U4b), marshy grassland (MG9a, MG10a), mire (M23a) and swamp (S9a) located on flat-lying ground to the south east of the A9 carriageway at the base of an existing embankment for this and within the Insh Marshes NNR (Ruthven compartment). The habitat is entirely within the permanent works boundaries and almost entirely within the Proposed Scheme footprint for the proposed southern approach embankment for the River Spey Bridge, SuDS 493 and an associated access track at Ruthven. Potential impacts are anticipated to be direct and of major magnitude.	Major	Large/ Very Large
A462	0.51	Moderate*	High	Wet grassland Swamp	Marshy grassland Swamp	0.00	0.00	Area of grassland (U4b) with local fragmented mire (M23b) and swamp (S10b) located on sloping ground near Ruthven Farm. The habitat is located outwith the permanent and temporary works boundaries, topographically level with and 230m south east of mainline widening P9-MC-14 and a cutting for SuDS 490, which are not anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
A706	2.11	Moderate	High	Wet grassland Swamp	Marshy grassland Swamp	<0.01	0.02	Mire (M23a) and swamp (S9a) located to the south of the A9 carriageway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). The habitat occurs over flat-lying ground within a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. The area is partially within the permanent works boundaries and partially within the Proposed Scheme footprint for a drainage channel. The vast majority of the habitat area occurs outwith the proposed works areas and extends across the marshes. Some marginal direct disturbance is anticipated and local alterations in drainage and construction activities in the area may have indirect effects, but these are assessed to be no more than minor magnitude.	Minor	Slight/ Moderate

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B188	0.22	Moderate	High	Wet grassland Swamp	Marshy grassland Swamp	0.00	0.00	Area of mire (M23a), swamp (S19, S9a) and marshy grassland (MG9) located to the north west of the existing A9 near Braes of Nuide, within the River Spey – Insh Marshes Ramsar, SPA and SSSI and River Spey SAC boundaries. The habitat occurs over flat-lying ground at the base of steeply sloping areas of woodland, outwith the permanent and temporary works boundaries, but 45m down-gradient of proposed mainline embankments, some areas of shallow access track widening and between 70 and 105m down-gradient on the opposite side of the carriageway to mainline cuttings P9-MC-07 and P9-MC-08. The habitat is located at an elevation in the region of 20 to 35m below the cuttings, with very limited to no drawdown of groundwater levels expected as a result. Groundwater flow and gradients are likely to be impacted upslope by the cuttings (which may require inclusion of rock traps, retaining walls and/ or platform benching), together with alterations in local drainage and run-off due to the embankment and access track works. Based on the nature of the works relative to the local topography however, potential indirect impacts are anticipated to be no more than negligible in magnitude at the level of the habitat.	Negligible	Neutral
B202	0.09	Moderate	High	Wet grassland Swamp	Marshy grassland Swamp	0.00	<0.01	Area of mire (M23a) and swamp (S9a) located at Blar Donn to the north of the existing A9 near Loch Buidhe. The habitat occurs within a linear topographic depression in the area associated with a watercourse channel (Caochan Riabhach), amongst variable topography and predominantly dry immediate surroundings (grasslands and plantation woodland). The habitat is marginally encroached by the permanent works boundaries, adjacent to the north of proposed access track works near Ralia and is located 100m down-gradient of mainline cutting P9-MC-06, which is likely to intercept groundwater. Some minor direct disturbance may occur together and indirect effects on groundwater associated with the up-gradient cutting and effects this may also have on the supporting watercourse are considered likely. Potential impacts are therefore assessed to be direct and indirect and of moderate magnitude.	Moderate	Moderate/ Large
B249	3.07	Moderate	High	Wet grassland Bog	Marshy grassland Peat bog	0.00	0.00	Area of rush pasture (MG10a), mire (M6d, M3), blanket mire (M25) and swamp (S9a) located to the north west of the A9 carriageway near Ralia, beyond the Highland Mainline railway. The habitat occurs over flat-lying ground at the base of steep slopes and is partially bisected by the Allt Torr an Daimh watercourse. It is located outwith the permanent and temporary works boundaries, 45m down-gradient of proposed side roads works near Ralia and a watercourse diversion for the Allt Torr an Daimh, 110m west and down-gradient of mainline widening P9-MC-03 and 100m north of a cutting for SuDS 417. These excavations are not anticipated to intercept groundwater and no direct disturbance of the habitat is expected. Potential indirect effects associated with the watercourse diversion adjacent to the habitat are assessed to be no more than negligible magnitude.	Negligible	Neutral
A491	0.25	High	Very High	Seepage/ flush/ spring	Other spring	0.00	0.00	Area of mire (M10a) located at the base of sloping ground to the south of the existing A9 carriageway near Lochan an Tairbh and Torr Buidhe woodland. The habitat is located outwith the permanent and temporary works boundaries, 250m north west and up-gradient of widening P9-MC-12 and 210m south east and up-gradient of widening P9-MC-13. Of these, only P9-MC-13 is likely to intercept groundwater, but the habitat is outwith the zone of dewatering influence from this. No direct or indirect impacts are anticipated.	N/A	N/A
A407	1.02	Moderate*	High	Seepage/ flush/ spring	Seepage/ flush	0.01	0.01	Area of grassland (U4b) and mire (M6d) located to the south of the A9 carriageway near Kerrow at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat is marginally within the permanent works boundaries and the Proposed Scheme footprint for a watercourse diversion, over an area of generally flat-lying and drained ground. The vast majority of the habitat occurs outwith the boundaries and footprint, with the areas of wet vegetation being linear and falling within depressions associated with other drainage lines. Some marginal direct habitat loss and disturbance may be expected, with these and potential indirect effects assessed to be of minor magnitude.	Minor	Slight/ Moderate
A419	0.43	Moderate*	High	Seepage/ flush/ spring	Seepage/ flush	0.00	0.00	Area of grassland (U4a) and mire (M6d) located to the north of the Highland Mainline railway, between this and the B9152 near Kingussie. The habitat occurs over generally flat-lying ground and was observed to be predominantly dry, with the wet mire vegetation occurring in association with two surface water drainage channels and an adjacent pond. The habitat is located outwith the permanent and temporary works boundaries, adjacent and down-gradient of construction phase works areas, the proposed Kingussie junction (P9-KJ-01), cuttings for SuDS 507 and SuDS 509, compensatory flood storage area cutting CSA 7 and otherwise, mainline embankments and drainage. No direct impacts are anticipated, and the topographic setting suggest inputs of surface water and run-off will continue. While the habitat may be indirectly affected by groundwater changes in the vicinity, the local increase of impermeable area and changes in drainage, the potential impacts are anticipated to be of minor magnitude.	Minor	Slight/ Moderate
A570	0.09	Low	Medium	Seepage/ flush/ spring	Seepage/ flush	0.00	0.00	Localised area of mire (M6a) situated to the south of the A9 carriageway near the existing Newtonmore junction. The habitat occurs in a shallow topographic basin amongst hummocky/ sloping ground and is located outwith the permanent and temporary works boundaries, 135m south east and up-gradient of mainline widening P9-MC-05. The habitat is outwith the zone of dewatering influence from the widening and occurs at an elevation in the region of 10m above it. No direct or indirect impacts are anticipated.	N/A	N/A

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A575	0.27	Low	Medium	Seepage/ flush/ spring	Seepage/ flush	0.27	0.00	Area of mire (M6d) located adjacent to the south of the A9 carriageway, entirely within the Proposed Scheme footprint for Newtonmore junction. Potential impacts are anticipated to be direct and of major magnitude.	Major	Large
A583	0.84	Low	Medium	Seepage/ flush/ spring	Seepage/ flush	0.00	0.00	Area of mire (M6a) located to the south of the A9 near the existing Newtonmore junction. The habitat was observed to occur in a linear topographic depression on a steeply sloping hillside, outwith the permanent and temporary works boundaries, 185 north east and up-gradient of a proposed shallow cutting (less than 1.00m) for SuDS 427 and 235m south west and up-gradient of mainline widening P9-MC-05. The habitat occurs at an elevation in the region of between 10 and 30m above these and is outwith the estimated zone of dewatering influence from P9-MC-05. No direct or indirect impacts are anticipated.	N/A	N/A
A589	0.13	Low	Medium	Seepage/ flush/ spring	Seepage/ flush	0.00	0.00	Area of mire flushing (M6a) located to the south of the A9 carriageway near the existing Newtonmore junction. The habitat occurs within a large linear topographic depression on a sloping hillside, outwith the permanent and temporary works boundaries, 170m south east and up-gradient of a proposed shallow cutting (less than 1.00m) for SuDS 427 and 250m south west and up-gradient of mainline widening P9-MC-05. The habitat lies at an elevation in the region of 10m above these and is outwith the estimated zone of dewatering influence from P9-MC-05. No direct or indirect impacts are anticipated.	N/A	N/A
A640	0.25	Low	Medium	Seepage/ flush/ spring	Seepage/ flush	0.00	0.00	Linear area of mire (M6a) to the east of the existing A9 carriageway near Ralia. The habitat occurs in a topographic depression between two lines of grouse butts, outwith the permanent and temporary works boundaries, 175m east of mainline widening P9-MC-01. The area is elevated (in the region of 5m) relative to the widening, but is within the estimated zone of dewatering influence for it. The topographic setting and nature of the likely water supply mechanisms to the habitat suggest it will continue to receive surface water and run-off inputs, but the local groundwater component may also be slightly affected. Potential impacts are assessed to be indirect of minor magnitude.	Minor	Slight
A640	0.11	Low	Medium	Seepage/ flush/ spring	Seepage/ flush	0.00	0.00	Linear area of mire (M6a) to the east of the existing A9 carriageway near Ralia. The habitat occurs in a topographic depression between two lines of grouse butts, outwith the permanent and temporary works boundaries, Outwith the permanent and temporary works boundaries, 125m east of mainline widening P9-MC-01. The habitat occurs over sloping ground and is elevated (in the region of 5m) relative to the widening, but is within the estimated zone of dewatering influence for it. The topographic setting and nature of the likely water supply mechanisms to the habitat suggest it will continue to receive surface water and run-off inputs, but the local groundwater component may also be slightly affected. Potential impacts are assessed to be indirect of minor magnitude.	Minor	Slight
B8	0.11	High	Very High	Seepage/ flush/ spring	Seepage/ flush	0.00	0.00	Area of mire (M6) flushing located to the north west of the existing A9 carriageway. The habitat is located outwith the permanent and temporary works boundaries, 210m north west and up-gradient of mainline widening P9-MC-25, which is likely to intercept groundwater. The habitat is elevated (in the region of 5m) relative to the widening beyond the existing Meadowside quarry and is outwith the estimated zone of dewatering influence for it. No direct or indirect impacts are anticipated.	N/A	N/A
C24	0.21	Moderate	High	Seepage/ flush/ spring	Seepage/ flush	<0.01	<0.01	Area of mire (M6c) located to the north of the A9 carriageway. The flushing emerges from an area of plantation woodland and is coincident with areas of this which appear to have been recently felled and are cross-cut by an artificial drainage. The habitat is marginal encroached by the permanent works boundaries and the Proposed Scheme footprint for an access track and pre-earthworks drainage at Croftcarnoch, but the majority of the area occurs outwith these features and cross-gradient of them. Some marginal direct habitat loss and disturbance may occur, but the topographic setting suggests potential indirect effects on the habitat are likely to be limited. Potential impacts are therefore considered to be direct and indirect, but of negligible magnitude.	Negligible	Neutral
B325	0.21	Low	Medium	Seepage/ flush/ spring Wet woodland	Seepage/ flush Other wet woodland	0.01	0.01	Area of mire (M6) and wet woodland (W4b) located to the north of the existing A9 near Ralia Beag, beyond the B9150 access road into Newtonmore. The habitat is partially within the permanent and temporary works boundaries and partially encroached by the Proposed Scheme footprint for a watercourse diversion. It is otherwise also situated down-gradient of proposed local access works, mainline embankments, pre-earthworks drainage, mainline widening P9-MC-05 and a shallow cutting (<1.00m) for SuDS 427. The topographic setting and nature of the likely water supply mechanisms to the habitat suggest it will continue to receive surface water and run-off inputs, but may be affected by a small proportion of direct loss. Potential impacts are anticipated to be direct and indirect and of minor magnitude.	Minor	Slight

Polygon ID	Total Area (ha)	Likely Groundwater Dependence	Sensitivity	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Total Area within Proposed Scheme footprint (ha)	Total Area within Land Made Available (ha)	Description of Potential Impacts (including Direct Effects/ Disturbance and Indirect Effects/ Disturbance from Nearest Earthworks Likely to Intercept Groundwater)	Magnitude	Significance
C52	0.13	Moderate	High	Seepage/ flush/ spring Wet grassland	Seepage/ flush Marshy grassland	0.00	0.00	Area of mire (M6d, M23a) near Lynvoan Cottage. The habitat occurs over gently sloping ground downslope of plantation woodland in association with a cut drainage channel outwith the permanent and temporary works boundaries, 55m north and slightly up-gradient of proposed access tracks, mainline widenings, pre-earthworks drainage and watercourse diversions. The nearest areas of cutting greater than 1.00m depth are P9-BL-02 and P9-BL-03, located 55 and 70m down and cross-gradient of the area, respectively. Of these, only P9-BL-03 is likely to intercept groundwater and the downslope extent of the habitat is marginally within the estimated zone of dewatering for this. Based on the topographic setting, upslope surface water run-off and groundwater inputs are considered likely continue and no direct impacts are anticipated. Potential indirect effects are assessed to be no more than negligible in magnitude.	Negligible	Neutral
B290	4.05	Moderate	High	Seepage/ flush/ spring Wet heath	Seepage/ flush Wet heath	0.00	0.11	Area of mire (M6, M4, M3), wet heath (M15b) and swamp (S10) located to the north west of the existing A9 at Invertruim. The habitat occurs over an area of flat-lying back slope terrace ground at the base of steep slopes, partially encroached by and lying down-gradient of the boundaries for a construction phase works area. The area is also located on the opposite side of the carriageway, 95m west and down-gradient of P9-MC-01, but an elevation in the region of 30m lower than this due to the topographic setting. Some marginal direct habitat disturbance and loss may occur, with these and potential indirect effects assessed to be of minor magnitude.	Minor	Slight/ Moderate
A323	0.07	Moderate	High	Fen	Fen	0.00	0.05	Area of mire (M27a) located on sloping ground adjacent to the south of the existing A9 carriageway and partially occurring over the existing embankment for this. The habitat is located almost entirely within the permanent works boundaries and is likely to be subject to disturbance and loss as a result. Potential impacts are therefore assessed to be direct and of major magnitude.	Major	Large/ Very Large
A328	1.12	Moderate	High	Fen	Fen	0.00	0.00	Area of mire (M27a) located on flat-lying ground to the south of the B9152, adjacent north of the Highland Mainline railway and within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil compartment). The habitat is located outwith the permanent and temporary works boundaries, 15m down-gradient of proposed upgrades to the B9152, 30m down-gradient of proposed mainline embankments and drainage, 70m down-gradient of widening P9-MC-21 and 50m cross-gradient of a cutting for SuDS 537. The habitat lies at an elevation approximately 5m below the mainline widening, outwith the estimated zone of dewatering influence for this, but is level with the cutting for SuDS 537 and partially within the estimated zone of dewatering influence for this, beyond a drainage channel. No direct impacts are anticipated, but the habitat is likely to be impacted by upslope and adjacent alterations in drainage and hydrology, assessed to be of moderate magnitude.	Moderate	Moderate/ Large
A373	0.26	Moderate	High	Fen	Fen	0.00	0.00	Area of mire (M27a) located to the south of the A9 carriageway, between the B9152 and the Highland Mainline railway near Chapelpark. The habitat occurs over generally flat-lying ground outwith the permanent and temporary works boundaries, but is located 25m down-gradient of proposed compensatory flood storage cutting CSA 9 and partially within the estimated zone of dewatering influence from this. The area is currently evidently affected by the existing infrastructure and drainage in the locality, but it may additionally be impacted indirectly due to upslope changes in groundwater levels, drainage and increase in impermeable area. Potential impacts are anticipated to be indirect and of minor magnitude.	Minor	Slight/ Moderate
A374	0.15	Moderate*	High	Fen	Fen	0.00	<0.01	Area of grassland (MG1a), surface water, grassland (U4a) and mire (M27a) located to the south of the A9 carriageway, between the B9152 and Highland Mainline railway near West Lodge. The habitat occurs over generally flat-lying ground just beyond the boundaries of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). The habitat is marginally encroached by the permanent works boundaries associated with an access track connection to the B9152 for SuDS 534, which is located 65m up-gradient. It is outwith the estimated zone of dewatering influence from the cutting for SuDS 534, and it is unlikely that there would be any substantial alterations of possible groundwater through-flows to the area. Some marginal direct habitat disturbance may occur, but this and potential up-gradient indirect effects are assessed to be no more than minor magnitude.	Minor	Slight/ Moderate
B88	0.12	Moderate	High	Fen	Fen	0.00	0.00	Area of mire (M27) located on flat-lying ground near where the existing A9 crosses the River Spey. The habitat is located outwith the permanent and temporary works boundaries, 170m west of the proposed southern approach embankment for the River Spey bridge, 120m south west and down-gradient of a proposed construction works area and 220m south west and down-gradient of cuttings P9-CS-01 and P9-MC-16. Only P9-CS-01 is likely to intercept groundwater and the habitat is outwith the estimated zone of dewatering influence for this. No direct or indirect impacts are anticipated.	N/A	N/A
A319	1.75	Moderate	High	Fen Wet woodland	Fen Other wet woodland	0.00	0.00	Area of mire (M27a, M5) and wet woodland (W3) located on flat-lying ground in the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil and Dunachton compartments), to the south of the existing A9 carriageway and adjacent north of the Highland Mainline railway. The habitat is located outwith the permanent and temporary works boundaries, between 100 and 140m down-gradient and south east of mainline widening P9-MC-22. The habitat occurs at elevations variably in excess of 15 and 20m below the widening, with very limited to no drawdown of groundwater level expected as a result. Groundwater flow and gradients may be impacted upslope together with alterations in local drainage and run-off, but potential indirect impacts are anticipated to be no more than negligible in magnitude at the level of the habitat.	Negligible	Neutral

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A303	4.57	Moderate*	High	Fen Reedbed	Fen Reedbed	0.00	0.00	Area of swamp (S9a, S9b, S4a) with mire (M5) located on flat-lying ground in the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil and Dunachton compartments), to the south of the existing A9 carriageway and adjacent north of the Highland Mainline railway. The habitat is outwith the permanent and temporary works boundaries, 140m down-gradient and south east of mainline widening P9-MC-22. The habitat occurs at an elevation in the region of 30m below the widening, with very limited to no drawdown of groundwater level expected as a result. Groundwater flow and gradients may be impacted upslope together with alterations in local drainage and run-off, but potential indirect impacts would be anticipated to be no more than negligible in magnitude at the level of the habitat.	Negligible	Neutral
BA1	0.07	High*	Very High	Fen Bog	Fen Peat bog	0.00	0.01	Area of swamp (S9a), mire (M4, M6c) and blanket mire (M17, M20) located to the south of the existing A9 carriageway near Milton of Nuide. The habitat occurs in a topographic hollow and is one of a number of fragmented mires and small lochans in this locality. It is marginally within the permanent works boundaries, adjacent to the south and up-gradient of a proposed compensatory flood storage area cutting CSA 1, which is not anticipated to intercept groundwater. A minor degree of potential direct habitat loss may occur to facilitate construction of the compensatory flood storage area, but given excavation works in the area are not anticipated to intercept groundwater and are likely to occur further downslope, indirect effects would also be expected to be no more than minor magnitude.	Minor	Moderate/ Large
A537	0.11	High*	Very High	Swamp	Swamp	0.00	0.00	Area of aquatic vegetation (A24) with swamp (S19a, S11a) occurring in a topographic hollow amongst hummocky surroundings some distance to the south of the existing A9 carriageway near the Milton of Nuide. The habitat is located outwith the permanent and temporary works boundaries, 145m south east of and up-gradient of a proposed compensatory flood storage area cutting CSA 1, which is not anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
A363	1.51	High*	Very High	Swamp Wet grassland	Swamp Marshy grassland	0.00	0.00	Area of mire (M23b) located within a topographic depression and ponding location to the east of Chapelpark and adjacent to the north of the B9152, down-gradient of and surrounded by polygon A361. The area is outwith the permanent and temporary works boundaries, 130m down-gradient of proposed mainline embankments, pre-earthworks drainage, widening P9-MC-19 and an access track cutting P9-BL-01. No direct habitat disturbance is anticipated to facilitate construction, but it may be slightly impacted due to upslope changes in groundwater levels, gradients, drainage and an increase in impermeable area. Owing to the distance between the proposed works and the local topography however, potential indirect impacts would be anticipated to be no more than negligible in magnitude at the level of the habitat.	Negligible	Neutral
A370	0.20	Moderate*	High	Swamp Wet grassland	Swamp Marshy grassland	0.00	0.00	Area of swamp (S10b) and mire (M23b) located on flat-lying ground between the B9152 and Highland Mainline railway. The habitat is located 50m cross-gradient of a proposed watercourse diversion and adjacent to an area identified for surface water drainage investigations. No direct impacts are anticipated, with potential indirect effects assessed to be no more than minor in magnitude.	Minor	Slight/ Moderate
A439	0.60	Moderate*	High	Swamp Wet grassland	Swamp Marshy grassland	0.00	0.00	Area of swamp (S9a), mire (M23b) and grassland (U4b) located on flat-lying ground to the east of the River Spey, near Ballochbuie Island and within the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and NNR (Ruthven compartment). The habitat is located outwith the permanent and temporary works boundaries, approximately 225m east of the proposed northern approach embankment for the River Spey bridge. The habitat is located beyond the River Spey and Burn of Ruthven at this location and no direct or indirect impacts are anticipated.	N/A	N/A
A446	0.25	Moderate*	High	Swamp Wet grassland	Swamp Marshy grassland	0.00	0.00	Area of swamp (S9a) and sub-dominant mire (M23b) located to the south east of the existing A9 carriageway, within the Insh Marshes NNR (Ruthven compartment). The habitat is outwith the permanent and temporary works boundaries, 80m east of the proposed southern approach embankment and works areas for the River Spey bridge at Ruthven and topographically level with these. The habitat is outwith the estimated zone of dewatering influence of the nearest areas of widening and cutting likely to intercept groundwater, and is unlikely to be significantly affected by localised minor changes to groundwater levels and flows due to the new embankment.	Negligible	Neutral
A448	0.97	High	Very High	Swamp Wet grassland	Swamp Marshy grassland	0.00	0.00	Outwith the permanent and temporary works boundaries adjacent to Ruthven Barracks, 190m north east of the cutting for SuDS 493, 120m east of the toe of the proposed southern approach embankment for the River Spey bridge at Ruthven and (approximately) topographically level with these. The habitat is outwith the estimated zone of dewatering influence of SuDS 493 and is unlikely to be affected by minor changes to groundwater level and flow from the proposed embankment. No direct or indirect impacts are anticipated.	N/A	N/A
A301	0.60	Moderate*	High	Swamp Fen	Swamp Fen	0.00	0.00	Area of swamp (S10b, S9a) with mire (M5) located on flat-lying ground in the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil and Dunachton compartments), to the south of the existing A9 carriageway and adjacent north of the Highland Mainline railway. The habitat is outwith the permanent and temporary works boundaries, 130m down-gradient and south east of mainline widening P9-MC-22. The habitat occurs at an elevation in the region of 30m below the widening, with very limited to no drawdown of groundwater level expected as a result. Groundwater flow and gradients may be impacted upslope together with alterations in local drainage and run-off, but potential indirect impacts would be anticipated to be no more than negligible in magnitude at the level of the habitat.	Negligible	Neutral

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A304	0.49	Moderate*	High	Swamp Fen	Swamp Fen	0.00	0.00	Area of swamp (S4a) with mire (M4, M5, M27) located on flat-lying ground in the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil and Dunachton compartments), to the south of the existing A9 carriageway and adjacent north of the Highland Mainline railway. The habitat is located outwith the permanent and temporary works boundaries, 205m down-gradient and south east of mainline widening P9-MC-22. The habitat occurs at an elevation in the region of 30m below the widening, with very limited to no drawdown of groundwater level expected as a result. Groundwater flow and gradients may be impacted upslope together with alterations in local drainage and run-off, but potential indirect impacts would be anticipated to be no more than negligible in magnitude at the level of the habitat.	Negligible	Neutral
A308	1.42	Moderate*	High	Swamp Fen	Swamp Fen	0.05	0.28	Area of swamp with mire (S9a, S9b, M5, M27a) located on flat-lying ground partially within the permanent works boundary and partially encroached by a proposed watercourse diversion. The area is 105m down-gradient of an access track cutting P9-CC-01 at an elevation in the region of 30m below it, with very limited to no drawdown of groundwater expected as a result. Groundwater flow and gradients may be impacted upslope together with alterations in local drainage and run-off due to the watercourse diversion, which combined with elements of direct disturbance, could have a moderate magnitude of impact.	Moderate	Moderate/ Large
A327	5.82	Moderate*	High	Swamp Fen	Swamp Fen	0.00	<0.01	Large area of swamp and mire (S10a, S10b, M27a) and wet woodland (W3) located on flat-lying ground to the south of the B9152, adjacent north of the Highland Mainline railway and within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (near the Balavil compartment). The habitat is marginally encroached by the permanent works boundaries for a pre-earthworks drainage outfall and otherwise, 75m down-gradient of mainline widenings P9-MC-21 and P9-MC-22. Both widening areas are likely to intercept groundwater, but as the habitat occurs at variably lower elevations than these, limited to no drawdown of groundwater levels are expected. Groundwater flow gradients may nevertheless be impacted upslope, together with alterations in local drainage and run-off, which combined with marginal elements of direct disturbance, could have a minor magnitude of impact.	Minor	Slight/ Moderate
A391	3.87	Moderate*	High	Swamp Bog	Swamp Peat bog	0.00	0.00	Swamp (S9a), blanket mire (M25a, M25c) and mire (M6a) mosaic located to the south of the A9 carriageway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR near Balavil. The habitat occurs over flat-lying ground within a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. The area is outwith the permanent and temporary works boundaries, 90m south of a proposed drainage channel which extends towards the marshes. No direct or indirect impacts are anticipated.	N/A	N/A
A181	0.19	Low	Medium	Wet heath	Wet heath	0.00	0.00	Area of wet heath (M15b) on gently sloping ground outwith the permanent and temporary works boundaries, 120m down-gradient and south east of mainline widening P9-MC-03 which is not anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
A601	3.10	Moderate	High	Wet heath	Wet heath	0.00	0.00	Area of wet heath (M15b) on gently sloping ground between two breaks in slope, to the south east of the existing A9 carriageway near Ralia. The area is outwith the permanent and temporary works boundaries, 170m south east and up-gradient of mainline widening P9-MC-03, which is not anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
A619	0.35	Low	Medium	Wet heath	Wet heath	0.00	0.00	Area of wet heath (M15b) on gently sloping ground between two breaks in slope, to the south east of the existing A9 carriageway near Ralia. The area is outwith the permanent and temporary works boundaries, 225m east and up-gradient of mainline widening P9-MC-02 and 210m south east and up-gradient of mainline widening P9-MC-03, neither of which are anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
A654	0.25	Low	Medium	Wet heath	Wet heath	0.00	0.00	Area of wet heath (M15b) located to the south east of the existing dual carriageway section of the A9 north of Crubenmore. The habitat occurs over sloping ground and is 130m up-gradient of the temporary works tie-in to the existing dual carriageway. No direct or indirect impacts are anticipated.	N/A	N/A
B214	3.22	Moderate	High	Wet heath	Wet heath	0.00	0.00	Area of wet heath (M15b) located to the north of the existing A9 carriageway beyond the Highland Mainline railway at Newtonmore. The habitat occurs over flat-lying ground at the base of steeper sloping ground between Perth Road (leading into Newtonmore) and the River Truim (near its confluence with the River Spey) and is located adjacent to the south of a proposed drainage channel and outfall. A cutting for proposed SuDS 434 is located on the opposite side of the railway and is not anticipated to intercept groundwater. No direct impacts are anticipated, with potential indirect effects from drainage works in the vicinity assessed to be of negligible magnitude.	Negligible	Neutral
B262	0.07	Low	Medium	Wet heath	Wet heath	0.01	0.06	Small and fragmented area of wet heath (M15b) located to the north west of the existing A9 carriageway near an area of woodland just south of Invernahavon Holiday Park. The habitat occurs in a topographic low at the base of steeply sloping ground and in association with a cut drainage channel, where an access track and pre-earthworks drainage are proposed. Given the habitat is almost entirely within the permanent works boundaries and/ or footprint of these features, potential impacts are anticipated to be direct and of major magnitude.	Major	Large

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B293	0.30	Moderate	High	Wet heath	Wet heath	0.00	0.00	Area of wet heath (M15b) located to the north west of the existing A9 carriageway near Glen Truim and beyond the Highland Mainline railway. The habitat occurs over generally flat-lying ground at the base of steeply sloping embankments associated with the railway, outwith the permanent and temporary works boundaries, 90m down-slope of areas of proposed embankment and pre-earthworks drainage. No potential direct or indirect impacts are anticipated.	N/A	N/A
C78	0.47	Low*	Medium	Wet heath	Wet heath	0.00	0.00	Area of woodland (W19a), grassland (U5) and local wet heath (M15b) located to the north of the existing A9 near Upper Raitts at Balavil on steeply sloping ground. The habitat is located outwith the permanent and temporary works boundaries, 85m north and up-gradient of a proposed watercourse diversion and otherwise, in the region of 150m north, north-west and up-gradient of proposed mainline embankments and pre-earthworks drainage. No direct or indirect impacts are anticipated.	N/A	N/A
A543	1.92	Moderate	High	Wet heath Seepage/ flush/ spring	Wet heath Seepage/ flush	0.00	0.00	Area of wet heath (M15b) and mire (M6a) over sloping ground and coincident with flow lines of the Allt Eoghainn surface watercourse. The habitat is located outwith the permanent and temporary works boundaries, and occurs up and cross-gradient of the northern end of mainline cutting P9-MC-07, partially within the estimated zone of dewatering influence of this. The vast majority of the habitat area occurs outwith the proposed works areas and extends along the banks of the watercourse up and cross-gradient, with the topographic setting indicating that inputs of surface water and run-off will continue. There may be some indirect groundwater effects from the cutting in the locality, but these are assessed to be of minor magnitude.	Minor	Slight/ Moderate
C103	0.35	Moderate	High	Wet heath Seepage/ flush/ spring	Wet heath Seepage/ flush	<0.01	<0.01	Area of wet heath (M15b) and mire (M6d) located to the north of the existing A9 and north east of Kerrow. The habitat occurs over gently sloping ground at the base of more steeply sloping ground, adjacent to the east of an incised surface watercourse channel. It is located marginally within the permanent works boundaries and partially encroached by a diversion to the watercourse channel and otherwise, 100m north west and up-gradient of mainline embankments, pre-earthworks drainage and access tracks. The vast majority of the habitat area occurs outwith the proposed works areas and extends along the banks of the watercourse up-gradient. Therefore, while some minor direct habitat loss and disturbance is expected, this is assessed to be of negligible magnitude.	Negligible	Neutral
A395	3.37	Moderate	High	Wet heath Bog	Wet heath Peat bog	0.00	<0.01	Area of wet heath (M15a) and mire (M6d) located to the south of the A9 carriageway over generally flat-lying ground at the fringes of and within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). The habitat is marginally encroached by the permanent works boundaries and otherwise, down-gradient of proposed mainline embankments, pre-earthworks drainage, watercourse diversions and mainline widenings P9-MC-17 and P9-MC-18, which are not anticipated to intercept groundwater. Some marginal direct habitat loss and disturbance may occur and there are likely to be up-gradient changes to the local near surface hydrology and an increase of impermeable area. However, the vast majority of the habitat area occurs outwith the proposed works areas and extends across the marshes and the potential impacts are anticipated to be no more than negligible magnitude.	Negligible	Neutral
A398	0.40	Moderate	High	Wet heath Bog	Wet heath Peat bog	0.00	0.00	Area of wet heath (M15b), grassland (U4) and blanket mire (M25a) located to the south of the A9 carriageway near Balavil over gently sloping ground at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat is located 75m down-gradient of proposed mainline embankments, pre-earthworks drainage and watercourse diversions, 45m east of a cutting for SuDS 513 and associated access track, but outwith the estimated zone of dewatering influence for this, and adjacent to the permanent works boundaries for construction activities. Surface water and run-off supply to the habitat may be indirectly affected by the local increase of impermeable area upslope as well as changes in drainage and construction activities nearby, assessed to be of minor magnitude.	Minor	Slight/ Moderate
A492	1.00	Moderate	High	Wet heath Bog	Wet heath Peat bog	0.00	0.00	Area of wet heath (M15b), blanket mire (M25a) and patchy dry heath (H12a) located on sloping ground, outwith the permanent and temporary works boundaries, 230m north west and up-gradient of widening P9-MC-12 and 250m south east and up-gradient of widening P9-MC-13. Of these, only P9-MC-13 is likely to intercept groundwater, but the habitat is outwith the estimated zone of dewatering influence from this. No direct or indirect impacts are anticipated.	N/A	N/A
A560	11.45	Low	Medium	Wet heath Bog	Wet heath Peat bog	0.01	0.21	Large area of wet heath (M15b), blanket mire (M25a) and local dry heath (H12a) occurring over steeply sloping ground, marginally encroached by the Proposed Scheme footprint and partially encroached by the permanent works boundaries. The habitat lies immediately up-gradient of mainline cutting P9-MC-07, wholly within the estimated zone of dewatering influence for this and there will be some small areas of direct habitat loss and disturbance. However, due to the steeply sloping topography, strong association with surface water and run-off from upslope and a low groundwater dependence, these and potential indirect impacts are anticipated to be of minor magnitude.	Minor	Slight

Polygon ID	Total Area (ha)	Likely Groundwater Dependence	Sensitivity	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Total Area within Proposed Scheme footprint (ha)	Total Area within Land Made Available (ha)	Description of Potential Impacts (including Direct Effects/ Disturbance and Indirect Effects/ Disturbance from Nearest Earthworks Likely to Intercept Groundwater)	Magnitude	Significance
A650	2.50	Low	Medium	Wet heath Bog	Wet heath Peat bog	0.00	0.00	Area of wet heath (M15b) and blanket mire (M25a) located to the south east of the existing A9 carriageway near Ralia. The habitat occurs over sloping ground, approximately 95m up-gradient of proposed embankments, pre-earthworks drainage and watercourse diversions, and 230m up and cross-gradient of mainline widening P9-MC-01. The habitat is outwith the permanent and temporary works boundaries and elevated in relation to the works, but is partially within the zone of dewatering influence of P9-MC-01. Due to the topographic setting and low dependence on groundwater inputs, potential indirect impacts are assessed to be of negligible magnitude.	Negligible	Neutral
A652	7.93	Low	Medium	Wet heath Bog	Wet heath Peat bog	0.01	0.76	Area of wet heath (M15b) and blanket mire (M19a) located adjacent to the south east of the existing A9 carriageway near Ralia. The habitat occurs over a sloping and flat-lying area at the base of more steeply sloping ground, partially encroached by the permanent works boundaries and the Proposed Scheme footprint for mainline embankment and pre-earthworks drainage. Due to the topographic setting, the habitat will continue to receive surface water run-off and groundwater inputs from the sloping ground to the east. However, there is likely to be some minor direct habitat loss and disturbance, as well as alterations in run-off and drainage closer to the road. Potential impacts are anticipated to be direct and indirect and of minor magnitude.	Minor	Slight
B254	6.33	Moderate	High	Wet heath Bog	Wet heath Peat bog	0.70	0.39	Large expanse of wet heath (M15b), blanket mire (M17, M25) and mire (M3) located to the north west of the A9 carriageway near Ralia, beyond the Highland Mainline railway. The habitat is partially located within the Proposed Scheme footprint for SuDS 417, an associated cutting, access track and drainage channels and also partially encroached by the permanent works boundaries. It is otherwise located down-gradient of proposed mainline embankments and pre-earthworks drainage on the opposite side of the railway across flat-lying ground towards the River Truim, and mainline widening P9-MC-03 which is not anticipated to intercept groundwater. There is likely to be some minor direct habitat loss and disturbance, as well as alterations in the local drainage. Potential impacts are therefore assessed to be direct and indirect and of minor magnitude.	Minor	Slight/ Moderate
B279	1.66	Moderate	High	Wet heath Bog	Wet heath Peat bog	0.00	0.00	Area of wet heath (M15b), blanket mire (M17) and mire (M3, M4, M6d) located to the north west of the existing A9 at Inverton. The habitat occurs over an area of flat-lying back slope terrace ground at the base of steep slopes to the east of the River Truim. The habitat is located outwith the permanent and temporary works boundaries, 65m west and down-gradient of a proposed access track, mainline embankments, watercourse diversions and 120m west and down-gradient of mainline widening P9-MC-01, which is likely to intercept groundwater. The habitat occurs at an elevation in the region of 30m below the widening, and limited to no drawdown of groundwater levels would expected as a result. Groundwater flow and gradients may nevertheless be impacted upslope together with alterations in local drainage and run-off, but potential indirect impacts would be anticipated to be no more than minor in magnitude at the level of the habitat.	Minor	Slight/ Moderate
C53	0.36	Moderate	High	Wet heath Bog	Wet heath Peat bog	0.00	0.00	Area of flushed wet heath (M15a) and blanket mire (M17) located adjacent to plantation woodland near Lynvoan Cottage. The habitat occurs over gently sloping ground outwith the permanent and temporary works boundaries, 35m north and slightly up-gradient of proposed access tracks, mainline widenings, pre-earthworks drainage and watercourse diversions. The nearest areas of cutting greater than 1.00m depth are P9-BL-02 and P9-BL-03, located 55 and 110m down and cross-gradient of the area, respectively. Of these, only P9-BL-03 is likely to intercept groundwater and the habitat is outwith the estimated zone of dewatering for this. Based on these considerations and the topographic setting, which suggest upslope surface water run-off and groundwater inputs will continue, no direct or indirect impacts are anticipated.	N/A	N/A
C59	0.17	Moderate	High	Wet heath Bog	Wet heath Peat bog	0.00	0.00	Area of flushed wet heath (M15a) and blanket mire (M17) located adjacent to plantation woodland near Lynvoan Cottage. The habitat occurs over gently sloping ground downslope of the woodland, 60m up-gradient of a proposed access track, watercourse diversions and pre-earthworks drainage. The habitat is elevated in relation to the nearest areas of cutting (P9-BL-01, P9-BL-02 and P9-BL-03), of which only one (P9-BL-03) is anticipated to intercept groundwater and the habitat falls outwith the estimated zone of dewatering influence for this. No potential direct or indirect impacts are anticipated.	N/A	N/A
A388	0.46	Moderate	High	Bog	Peat bog	0.00	0.00	Area of blanket mire (M25a, M25c) located to the south of the A9 carriageway just beyond the boundaries of the Insh Marshes NNR (Lynchat compartment). The habitat occurs over flat-lying ground at the edge of a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. The habitat is outwith the permanent and temporary works boundaries, 70m down-gradient of proposed mainline embankments and pre-earthworks drainage channels and 35m down-gradient of a potential construction works area. No direct disturbance impacts are anticipated, but there may be up-gradient changes to the local near surface hydrology due to construction works, alterations in drainage and an increase of impermeable area, assessed to be of minor magnitude.	Minor	Slight/ Moderate

Polygon ID	Total Area (ha)	Likely Groundwater Dependence	Sensitivity	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Total Area within Proposed Scheme footprint (ha)	Total Area within Land Made Available (ha)	Description of Potential Impacts (including Direct Effects/ Disturbance and Indirect Effects/ Disturbance from Nearest Earthworks Likely to Intercept Groundwater)	Magnitude	Significance
A389	1.64	Moderate	High	Bog	Peat bog	0.00	<0.01	Mire (M6a) and blanket mire (M25a) located to the south of the A9 carriageway at the fringes of and extending into the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). The habitat occurs over flat-lying ground at the edge of a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. The habitat is marginally encroached by the permanent works boundaries, partially adjacent to the south of a watercourse diversion which is proposed into a ditch alongside the area and otherwise, between 45 and 95m down-gradient of proposed mainline embankments and pre-earthworks drainage channels. Minimal direct disturbance impacts are anticipated and while there are likely to be up-gradient changes to the local near surface hydrology due to construction works, alterations in drainage and increase of impermeable area, any potential indirect effects are anticipated to be of negligible magnitude.	Negligible	Neutral
A390	1.32	Moderate	High	Bog	Peat bog	0.00	0.00	Blanket mire (M25a, M25c) and mire (M6a) located to the south of the A9 carriageway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat compartment). The habitat occurs over flat-lying ground at the edge of a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland in the Scottish Wetland Inventory. It is located outwith the permanent and temporary works boundaries, 140m south of a potential construction works area, mainline embankments and pre-earthworks drainage, and 20m south west of a proposed pre-earthworks drainage channel outfall, beyond an intervening drainage ditch. No potential direct impacts are anticipated and any potential indirect effects are expected to be no more than negligible in magnitude.	Negligible	Neutral
A394	0.25	Moderate	High	Bog	Peat bog	0.00	<0.01	Area of blanket mire (M25a) located to the south of the A9 carriageway near Balavil and partially within the River Spey floodplain. The habitat occurs over generally flat-lying ground at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat is marginally encroached by the permanent works boundary for a watercourse/ drainage ditch diversion adjacent to the south west of the area and is otherwise down-gradient of proposed mainline embankments, pre-earthworks drainage and watercourse diversions, and 120m down-gradient of a cutting for SuDS 513 and between 170 and 200m down-gradient of mainline widenings P9-MC-17 and P9-MC-18, beyond intervening drainage ditches. Minimal direct disturbance impacts are anticipated and while there are likely to be up-gradient or adjacent changes to the local near surface hydrology due to construction works, alterations in drainage and increase of impermeable area, any potential indirect effects are anticipated to be of negligible magnitude.	Negligible	Neutral
A406	0.36	Moderate	High	Bog	Peat bog	0.00	0.00	Area of mire (M6d) located to the south east of the A9 carriageway near Kerrow at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat occurs over flat-lying ground, flanked/ crossed by a series of drainage channels and is located outwith the permanent and temporary works boundaries, 110m down-gradient of a proposed watercourse/ drainage ditch diversion. No potential direct or indirect impacts are anticipated.	N/A	N/A
A493	0.26	Moderate	High	Bog	Peat bog	0.00	0.00	Area of blanket mire (M25a) located to the south of the A9 carriageway and adjacent to the east of Torr Buidhe woodland. The habitat is outwith the permanent and temporary works boundaries, 225m south east and up-gradient of mainline widening P9-MC-12, which is not anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
A499	0.16	High	Very High	Bog	Peat bog	0.00	0.00	Area of mire (M6a) and blanket mire (M25a) to the south of the existing A9 carriageway near Torr Buidhe woodland. The habitat occurs within a linear topographic depression on a gently sloping hillside and was observed to be associated with a spring further distanced from the upslope extent. It is outwith the permanent and temporary works boundaries, 150m south west and up-gradient of mainline widening P9-MC-12, which is not anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
A587	1.05	Low	Medium	Bog	Peat bog	0.33	0.71	Area of mire (M6a) adjacent to the south of the A9 carriageway near the existing Newtonmore junction. The habitat occurs over flat topography in a topographic low, almost entirely within the permanent works boundaries and partially within the Proposed Scheme footprint for mainline embankments, SuDS 427, an associated access track, pre-earthworks drainage and landform re-profiling. A reasonable proportion of direct habitat loss is therefore anticipated, with the remaining area likely to be affected by groundwater and hydrological change due to the embankment, the local increase of impermeable area, changes in drainage and landform. Potential impacts are anticipated to be direct and indirect and of major magnitude.	Major	Large
A588	0.46	Low	Medium	Bog	Peat bog	0.00	0.00	Area of dry heath (H12a), blanket mire (M25a) and grassland (U4a) located to the south of the A9 carriageway near the existing Newtonmore junction. The habitat occurs over sloping topography, immediately downslope of areas of deep peat, outwith the permanent and temporary works boundaries, 175m south east and up-gradient of a proposed shallow cutting (less than 1.00m) for SuDS 427 and 240m south west and up-gradient of mainline widening P9-MC-05. The area lies at an elevation in the region of between 10 and 20m above these and is outwith the estimated zone of dewatering influence from P9-MC-05. No direct or indirect impacts are anticipated.	N/A	N/A

Polygon ID	Total Area (ha)	Likely Groundwater Dependence	Sensitivity	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Total Area within Proposed Scheme footprint (ha)	Total Area within Land Made Available (ha)	Description of Potential Impacts (including Direct Effects/ Disturbance and Indirect Effects/ Disturbance from Nearest Earthworks Likely to Intercept Groundwater)	Magnitude	Significance
A597	0.26	Low	Medium	Bog	Peat bog	0.08	0.05	Area of blanket mire (M25a) and dry heath (H12a) located to the south of the A9 carriageway near the existing Newtonmore junction. The habitat was observed to occur in a topographic low underlain by and adjacent to areas of shallow peat. It is partially within the permanent works boundaries and partially within the Proposed Scheme footprint for mainline embankments, SuDS 427, an associated access track and pre-earthworks drainage, occurring over sloping ground towards these. The topographic setting suggests the portions of the habitat outwith the footprint will continue to receive surface water and groundwater inputs, but some direct habitat loss is anticipated, with a proportion that may also be affected due to the local increase of impermeable area and changes in drainage. Potential impacts are assessed to be direct and indirect of moderate magnitude.	Moderate	Moderate
A609	1.84	Moderate	High	Bog	Peat bog	0.01	0.24	Area of blanket mire (M25a) on gently sloping ground between two breaks in slope, to the south east of the existing A9 carriageway near Ralia. The habitat is partially located within the permanent works boundaries and partially within the Proposed Scheme footprint for a watercourse diversion. It is also located between 10 and 110m north east and east of mainline widening P9-MC-03 and 175m north east of mainline widening P9-MC-02. The habitat occurs up-gradient of both widenings, neither of which are anticipated to intercept groundwater. Potential impacts are therefore anticipated to be direct for the portion that lies within the permanent works boundaries and Proposed Scheme footprint, and these are assessed to be of minor magnitude.	Minor	Slight/ Moderate
A622	1.53	Low	Medium	Bog	Peat bog	0.00	0.00	Area of blanket mire (M25a, M17a) located on gently sloping ground between two breaks in slope, to the south east of the existing A9 carriageway near Ralia. The area is outwith the permanent and temporary works boundaries, 195m east and up-gradient of mainline widening P9-MC-02 and 200m south east and up-gradient of mainline widening P9-MC-03, neither of which are anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
A645	0.15	Low	Medium	Bog	Peat bog	0.00	0.00	Linear area of blanket mire (M25a) located to the south east of the existing A9 carriageway near Ralia. The habitat is located outwith the permanent and temporary works boundaries, 210m south, up and cross-gradient of mainline widening P9-MC-01. The habitat occurs over sloping ground and is elevated (in the region of 5m) relative to the widening, but is partially within the estimated zone of dewatering influence for it. The topographic setting and nature of the likely water supply mechanisms to the habitat suggest it will continue to receive surface water and run-off inputs, but the local groundwater component may be slightly affected. Potential impacts are assessed to be indirect of minor magnitude.	Minor	Slight
A660	0.18	Low	Medium	Bog	Peat bog	0.12	0.05	Small area of blanket mire (M25a) located adjacent south east of the A9 carriageway just south of the existing Newtonmore junction. The habitat occurs in a flat-lying topographic low adjacent to more steeply sloping ground, entirely within the permanent works boundaries and largely within the Proposed Scheme footprint for a mainline embankment and pre-earthworks drainage. Direct loss and disturbance impacts are therefore anticipated, assessed to be of major magnitude.	Major	Large
B258	0.22	Low	Medium	Bog	Peat bog	0.02	0.20	Linear area of blanket mire (M17) and mire (M6) located to the north west of the existing A9 carriageway near an area of woodland just south of Invernahavon Holiday Park. The habitat occurs in a topographic low at the base of steeply sloping ground and in association with a cut drainage channel adjacent to the woodland, where an access track and pre-earthworks drainage are proposed. Given the habitat is almost entirely within the permanent works boundaries and/ or footprint of these features, potential impacts are anticipated to be direct and of major magnitude.	Major	Large
B285	0.20	Moderate	High	Bog	Peat bog	0.00	0.00	Area of blanket mire (M25) near Invernahavon Holiday Park. The habitat occurs over an area of flat-lying back slope terrace ground at the base of steep slopes, outwith the permanent and temporary works boundaries beyond the Highland Mainline railway, 30m west and down-gradient of a proposed construction phase works area. No direct impacts are anticipated, with potential indirect effects assessed to be of minor magnitude.	Minor	Slight/ Moderate
B296	0.10	Moderate	High	Bog	Peat bog	0.00	0.00	Area of blanket mire (M25) located to the north west of the existing A9 carriageway near Glen Truim. The habitat is located outwith the permanent and temporary works boundaries beyond the Highland Mainline railway, 70m west and down-gradient of proposed mainline embankments and drainage at the southern tie-in to the existing dual carriageway at Glen Truim. No direct or indirect impacts are anticipated.	N/A	N/A
B306	1.55	Moderate	High	Wet woodland Bog	Other wet woodland Peat bog	0.00	0.00	Outwith the permanent and temporary works boundaries beyond the Highland Mainline railway, 110m west and down-gradient of proposed mainline embankments and drainage at the southern tie-in to the existing dual carriageway at Glen Truim, but located directly adjacent and cross-gradient of a proposed construction phase access area adjacent to the Bridge of Truim. No direct impacts are anticipated, with potential indirect effects assessed to be of minor magnitude.	Minor	Slight/ Moderate
B294	0.51	Moderate*	High	Bog Wet woodland	Peat bog Other wet woodland	0.00	0.00	Area of grassland (U4, U20, U5), blanket mire (M25) and wet woodland (W4) located to the north west of the A9 carriageway near Glen Truim. The habitat occurs over steeply sloping ground beyond and downslope of embankments associated with the Highland Mainline railway. It is outwith the permanent and temporary works boundaries, 95m down-gradient of areas of proposed embankment and pre-earthworks drainage. No potential direct or indirect impacts are anticipated.	N/A	N/A

Polygon ID	Total Area (ha)	Likely Groundwater Dependence	Sensitivity	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Total Area within Proposed Scheme footprint (ha)	Total Area within Land Made Available (ha)	Description of Potential Impacts (including Direct Effects/ Disturbance and Indirect Effects/ Disturbance from Nearest Earthworks Likely to Intercept Groundwater)	Magnitude	Significance
B156	0.64	Moderate	High	Bog Wet grassland	Peat bog Marshy grassland	0.07	0.56	Area of mire (M6d, M23b, M3) located to the north of the existing A9 carriageway at Nuide Farm. The habitat is located entirely within the permanent and temporary works boundaries, partially encroached by the Proposed Scheme footprint for pre-earthworks drainage and access track embankments. It is otherwise down-gradient of proposed embankments for the mainline, cuttings P9-NF-02, P9-NF-03, P9-NF-05, SuDS 458, SuDS 461 and compensatory flood storage area CSA 2. The topographic setting and nature of the likely water supply mechanisms to the habitat suggest it will continue to receive surface water and run-off inputs, but it is likely to be affected through some direct loss, the local increase in impermeable areas and drainage alterations. Potential impacts are therefore anticipated to be direct and indirect and of major magnitude.	Major	Large/ Very Large
A501	0.30	Moderate/ High	High/ Very High	Bog Seepage/ flush/ spring	Peat bog Other spring	0.00	0.00	Area of wet heath (M15b), blanket mire (M25a) and mire (M10a) located adjacent to the Burn of Inverton, outwith the permanent and temporary works boundaries, 60m south up and cross-gradient of mainline widening P9-MC-12, which is not anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
A707	1.24	Moderate	High	Bog Swamp	Peat bog Swamp	0.00	0.00	Blanket mire (M25a), swamp (S9a) and mire (M6a) mosaic located to the south of the A9 carriageway within the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC and NNR (Lynchat Compartment). The habitat occurs over flat-lying ground within a wider mire, swamp and fen complex, identified as peat bog, fen, swamp and non-specific wetland within the Scottish Wetland Inventory. It is outwith the permanent and temporary works boundaries, 170m south and 200m east of proposed drainage channels and watercourse diversions. No direct or indirect impacts are anticipated.	N/A	N/A
A369	0.52	Moderate	High	Bog Swamp	Quaking bog Swamp	0.00	<0.01	Area of mire (M5) and swamp (S10b, S9a) located on flat-lying marshy ground which is very marginally encroached by an area identified for surface water drainage investigations, an undertrack crossing and possible outfall/ soakaway. The habitat may be associated with through-flow from a drainage issues and sink to the north of the railway, which the investigations works are focused around, so alterations to this may have indirect effects of minor magnitude.	Minor	Slight/ Moderate
A396	0.34	Moderate	High	Bog Wet heath	Peat bog Wet heath	0.00	0.00	Area of blanket mire (M25a) and wet heath (M15b) located to the south of the A9 carriageway near Balavil over generally flat-lying ground at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat is located 85m down-gradient of proposed mainline embankments, pre-earthworks drainage and watercourse diversions, and 110m south east of a cutting for SuDS 513 and an associated access track, but outwith the estimated zone of dewatering influence for this. Surface water and run-off supply to the habitat may be indirectly affected by the local increase of impermeable area upslope as well as changes in drainage and construction activities nearby, assessed to be of minor magnitude.	Minor	Slight/ Moderate
A405	1.90	Moderate	High	Bog Wet heath	Peat bog Wet heath	0.00	0.07	Area of mire (M6d) and wet heath (M15b) located to the south east of the A9 carriageway near Kerrow at the fringes of the River Spey – Insh Marshes Ramsar, SPA and SSSI and Insh Marshes SAC. The habitat occurs over flat-lying ground and is flanked by a series of drainage channels and is partially encroached by the permanent works boundaries for a watercourse/ drainage ditch diversion. It is otherwise located down-gradient of proposed mainline embankments, per-earthworks drainage, other watercourse diversions, and 140m south east of a cutting for SuDS 513 and an associated access track, beyond some intervening drainage ditches. The habitat is located outwith estimated zone of dewatering influence from the cutting for SuDS 513 and while there are likely to be up-gradient or adjacent changes to the local near surface and ditch hydrology due to construction works, alterations in drainage and an increase of impermeable area, potential indirect effects are anticipated to be of negligible magnitude. Notwithstanding, some direct habitat disturbance may occur to facilitate construction, assessed to be of minor magnitude.	Minor	Slight/ Moderate
A653	1.98	Low	Medium	Bog Wet heath	Peat bog Wet heath	0.00	0.00	Area of blanket mire (M25a) and wet heath (M15b) located to the south east of the existing A9 carriageway near Ralia. The habitat is located outwith the permanent and temporary works boundaries, 120m east, up-gradient and elevated (in the region of 5m) across sloping ground relative to proposed mainline embankments and pre-earthworks drainage in the vicinity. No direct or indirect impacts are anticipated.	N/A	N/A
B247	1.70	Moderate	High	Bog Wet heath	Peat bog Wet heath	0.00	0.00	Large area of blanket mire (M25), wet heath (M15b) and mire (M6c, M6d) located to the north west of the A9 carriageway. The habitat is located outwith the permanent and temporary works boundaries, 105m west and down-gradient of proposed side road works near Ralia, beyond the Highland Mainline railway and almost entirely beyond the Allt Tor an Daimh watercourse. No direct or indirect impacts are anticipated.	N/A	N/A
B301	1.50	Moderate	High	Bog Wet heath	Peat bog Wet heath	0.00	0.00	Area of blanket mire (M25), wet heath (M15b) and mire (M6d, M4) located to the west of the existing A9 carriageway near Glen Truim. The habitat is outwith the permanent and temporary works boundaries beyond the Highland Mainline railway, 60m west and down-gradient of proposed mainline embankments and drainage at the southern tie-in to the existing dual carriageway at Glen Truim. No direct or indirect impacts are anticipated.	N/A	N/A

Polygon ID	Total Area (ha)	Likely Groundwater Dependence	Sensitivity	Potential Wetland Type(s)	Potential Wetland Sub-type(s)	Total Area within Proposed Scheme footprint (ha)	Total Area within Land Made Available (ha)	Description of Potential Impacts (including Direct Effects/ Disturbance and Indirect Effects/ Disturbance from Nearest Earthworks Likely to Intercept Groundwater)	Magnitude	Significance
B123	0.03	Low*	Medium	Bog	Quaking bog	0.00	0.00	Area of mire (M4, M5) located in a slight topographic low and boggy area of Blar Odhar woodland, near Lochan an Tairbh. The habitat is located outwith the permanent and temporary works boundaries, 65m north east and down-gradient of a cutting for SuDS 474 and 150m north east and down-gradient of mainline widening P9-MC-12, neither of which are anticipated to intercept groundwater. No direct or indirect impacts are anticipated.	N/A	N/A
B195	0.65	Moderate*	High	Bog	Peat bog Quaking bog	0.00	0.00	Area of mire (M3, M4), blanket mire (M19), local wet heath (M15b) and dry heath (H12a) located at Blar Donn and adjacent to the revegetated transition mire (M4) Loch Buidhe. The habitat is located outwith the permanent and temporary works boundaries 150m north east of the proposed Newtonmore junction and cutting P9-NJ-03, 190m cross-gradient of a cutting for SuDS 434 and 280m down-gradient of mainline cutting P9-MC-06. Of these, only cutting P9-MC-06 is anticipated to intercept groundwater, but the habitat is located outwith the estimated zone of dewatering influence of this. No direct or indirect impacts are anticipated.	N/A	N/A

5 Conclusions

5.1.1 Based on the criteria in **Table 10-5** in **Chapter 10** (**Volume 1**), the magnitude of potential impacts on individual GWDTE habitat areas have been assessed to vary from negligible to major across the Proposed Scheme; with direct loss, disturbance and alteration in groundwater levels or flows, near surface hydrology and drainage throughout, but mainly where it is considered that the value of the individual areas would either not be affected, or would be, but not to a major degree.

5.1.2 For the 208 GWDTE habitat areas assessed, this results in impacts of **Neutral** significance for 38 habitat areas (18%), **Slight** to **Slight/ Moderate** significance for 41 habitat areas (20%), **Moderate** to **Moderate/ Large** significance for 30 habitat areas (14%), **Large** to **Large/ Very Large** significance for 31 habitat areas (15%) and **Very Large** significance for one habitat area (less than 1%). No direct or indirect hydrogeological impacts are expected in relation to the remaining 67 habitat areas (32%).

5.1.3 Ninety-six of the habitats (26.70 ha) are located partially or entirely within the Proposed Scheme footprint and wider land made available, meaning they could be directly lost or disturbed. This includes 19 areas (6.63 ha) where over 95% of the habitat may be directly affected, 16 areas (7.39 ha) where between 50 and 95% of the habitat may be directly affected, 18 areas (10.08 ha) where between 15 and 50% of the habitat may be directly affected and 43 areas (2.60 ha) where less than 15% of the habitat may be directly affected. A total of 0.89 ha of these have a high dependence on groundwater, 0.04 ha have a moderate/ high dependence on groundwater, 21.67 ha have a moderate dependence on groundwater and 4.10 ha have a low dependence on groundwater.

5.1.4 As summarised in **Table 6**, these impacts are anticipated predominantly in relation to areas of wet grasslands, wet woodlands, seepages, flushes, springs and bog, with some areas of fen, swamp and wet heath also locally affected. In some instances, the groundwater dependent vegetation is also noted to be the sub-dominant cover in the habitat areas; meaning the total areas directly lost or disturbed within the individual areas may be over-stated.

Table 6: GWDTE Direct Loss and Disturbance

Wetland Type	Total Resource within GWDTE Study Area (ha)	Total Area within Proposed Scheme Footprint (ha)	% of the Resource within GWDTE Study Area	Total Area within Land Made Available (ha)	% of the Resource within GWDTE Study Area
Wet woodland	36.75	2.89	7.86%	4.05	11.02%
Wet grassland	84.73	6.64	7.84%	7.55	8.91%
Seepage/ flush/ spring	8.10	0.30	3.70%	0.14	1.73%
Fen	8.11	0.00	0.00%	0.07	0.86%
Swamp	15.84	0.05	0.32%	0.29	1.83%
Wet heath	45.39	0.74	1.63%	1.44	3.17%
Bog	21.75	0.63	2.90%	1.91	8.87%
Total	**220.67**	**11.25**	**5.10%**	**15.45**	**7.00%**

5.1.5 No significant impacts have been identified in relation to GWDTE habitat areas that correspond to alder woodland (A343, B93, B187) and transition mire and quaking bog (A369) qualifying interest features of the Insh Marshes SAC. However, significant impacts have been identified in up to eight and 13 areas, respectively, that correspond to or contain components of the floodplain fen/ mire (A308, A309, A328, A329, A386, A443, A457, A458) and vascular plant

assemblage (A308, A309, A313, A325, A326, A328, A329, A386, A392, A425, A443, A457, B100) interest features of the River Spey – Insh Marshes Ramsar, SSSI and/ or the Insh Marshes NNR, principally due to their presence within the Proposed Scheme footprint or wider land made available.

5.1.6 The landscape and ecological mitigation plans shown in **Drawings 6.1** to **6.12** (**Volume 3**) outline proposals to re-instate and restore GWDTE habitat types within the permanent works boundaries and wider land made available, such as wet heaths, wet grasslands and wet woodlands; while the Outline Habitat Management Plan in **Appendix 12.13** (**Volume 2**) provides a basis for additional specific wetland re-instatement measures in relation to habitat and interest features of the River Spey – Insh Marshes Ramsar, SPA and SSSI, Insh Marshes SAC and Insh Marshes NNR to be established. Proposals detailed in **Appendix 6.2** (**Volume 2**), also set out a commitment to create approximately 36 ha of wader habitat (including wet grassland, marshy grassland and riparian habitat enhancements) at the Dellmore of Kingussie prior to construction. These proposals are therefore anticipated to provide compensation for the majority of habitat loss and disturbances as a result of the Proposed Scheme, including areas within designated sites, together with re-instatement of areas affected in the permanent works boundaries and wider land made available following construction. The Outline Peat Management Plan in **Appendix 10.6** (**Volume 2**) also outlines opportunities for the creation of peat and wetland habitats in selected SuDS basins and compensatory flood storage areas where suitable and practicable.

5.1.7 As well as direct loss and disturbance, areas of widening and cutting for the Proposed Scheme that intercept groundwater have potential to impact on groundwater levels and flows in the surrounding superficial soils/ bedrock and alter local flow directions in the immediate vicinity. Pre-earthworks drainage is included in the Proposed Scheme to reduce potential effects this may have on adjacent habitats; however, these and other construction and operation-stage drainage measures, increases in impermeable areas and other infrastructure elements may also impede or alter near surface hydrological regimes and drainage patterns, which could lead to short or long-term vegetation deterioration or change, depending on the local topography and hydrogeology.

5.1.8 Due to the nature of the existing topography across the Proposed Scheme and that the majority of cuttings relate to widening of existing ones, the impacts on groundwater level and flow in surrounding superficial soils and bedrock have been assessed as predominantly minor, with localised zones of dewatering influence that are considered unlikely to affect the majority of longer-term or ongoing water supply mechanisms to up or down-gradient GWDTE habitats.

5.1.9 More extensive and deeper excavations are proposed in certain areas however, as detailed in **Chapter 10** (**Volume 1**); while offline embankment construction, piling and other construction works within and nearby sections of the Insh Marshes and River Spey bridge crossing could have localised effects on near surface hydrology, shallow groundwater levels or interact with existing sensitive drainage regimes. Potential impacts on groundwater levels and flows in these areas have been assessed to vary between minor and moderate, due to the anticipated depth of excavations, drawdown or greater likelihood for local flow patterns to be altered. However, these are almost exclusively equivalent to only minor or partial change in and not necessarily loss of adjacent GWDTE habitats based on the nature of the water supply mechanisms to these and in the majority of cases, the disruption is not expected to have any lasting significant discernible effect on habitats beyond the Proposed Scheme footprint or wider land made available.

5.1.10 Given the nature of these effects, it is difficult to quantify the extent of habitat areas that may be indirectly affected. However, additional detailed assessment of those widening, cutting or other areas anticipated to result in indirect impacts on GWDTE is recommended prior to construction. Based on this, groundwater exclusion, containment and other measures will be considered and implemented during construction and operation, to reduce indirect effects and to maintain or

facilitate groundwater through-flows where necessary. This will be supplemented by measures in relation to the control of sediments, run-off, discharges, pollution prevention and drainage, with specific monitoring and mitigation plans, ecological site supervision and additional micrositing during detailed design and construction also recommended.

5.1.11 Each GWDTE identified to be at risk of impact would be monitored prior to and following construction, to determine the level of impact from groundwater drawdown and hydrological disruption, including a representative sample of downslope GWDTE. This monitoring would include both groundwater levels and repeated NVC surveys, in accordance with SEPA guidance (SEPA, 2017), and may feature hand-driven groundwater monitoring wells, with a minimum of one up-gradient location and two down-gradient locations where GWDTE may be impacted. Requirements prior to and following construction would include:

- Pre-construction: a minimum of ten samples of groundwater level over a minimum of six months prior to construction, including at least five in the summer period
- Post-construction: a minimum of ten measurements of groundwater level per year, conducted for a minimum of three years until it is demonstrated the receptors are not impacted.

5.1.12 Monitoring during construction phase will also be considered where required in order to provide meaningful indications of the ongoing works, potential impacts and mitigation implementation, and all monitoring locations would be agreed in consultation with SEPA and relevant landowners prior to installation.

6 References

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