

Technical Note

Project name Glen Earrach PSH	Subject Glen Earrach Grid Connection – Terrestrial Ecology	Date April 2026
Prepared by ND Associate Director - Ecology	Checked by MC Project Manager	Verified by DL Technical Director
		Approved by MC Project Manager

Background

Glen Earrach Energy (GEE) has instructed AECOM to undertake a desk-based Terrestrial Ecology assessment of the potential effects of a proposed grid connection (hereafter the Grid Connection Project) for the Glen Earrach Pumped Storage Hydro project (the Proposed Development). An indicative connection route has been identified between the substation forming part of the Proposed Development and the indicative connection point for the Proposed Development at the Bingally substation to the west (hereafter the Connection Route).

The Connection Route comprises an initial section (approximately 2km) of underground 400kV cable (UGC) from the Glen Earrach Pumped Storage Hydro substation to the start of a 400kV overhead line (OHL) section. The 400kV overhead line has an approximate length of 16km and connects the underground cable section to the Bingally Substation. The Connection Route is as shown in Figure A. To inform the assessment it is assumed that the 2km of 400kV cable will be installed through micro-tunnelling. It is also assumed that access tracks and temporary working areas will be required in the vicinity of the Connection Route during construction with construction lasting approximately 3 years.

The aim of this assessment is to identify whether the Grid Connection Project has the potential to result in any likely significant effects on Terrestrial Ecology, having regard to the cumulative assessment approach used in the Environmental Impact Assessment Report (EIAR) for the Proposed Development, considering both the Construction Phase and the Operation Phase. This Technical Note should be read in conjunction with Chapter 7: Terrestrial Ecology of the EIAR for the Proposed Development (hereafter the Terrestrial Ecology Chapter) and Additional Information.

Baseline Conditions

The statements in this Technical Note are based on the current Connection Route, which is indicative with limited high level information, and high level desk review only. In contrast, detailed alignment design and environmental assessment would be carried out by SSEN, supported by detailed field surveys. It is therefore possible that the conclusions of the SSEN environmental assessment might differ from the high level statements in this document, although it is not considered likely that the differences would be significant.

This Technical Note should be read in conjunction with Chapter 7: Terrestrial Ecology of the EIAR. The sections further below consider the possibility of likely significant effects for designated sites and critical habitats arising from the Grid Connection Route. The Connection Route does not lie within any statutory designated site; nor is it likely that the particular route ultimately chosen by SSEN would deviate so far from the provided route as to directly impact designated sites (and given that SSEN would seek to actively avoid them). However, some designated sites are within standard consideration distance of the Connection Route (10km for European sites; 2km for SSSIs; or further if connectivity exists), some of which were not within the zone of influence of the Project and were therefore not discussed in the EIAR / Habitats Regulations Appraisal (HRA). The relevant designated sites with biological non-avian interests comprise Strathglass Complex SAC, Glen Moriston SAC, Glen Affric SSSI and Glen Affric NNR, which are discussed below. There are no non-statutory sites with non-avian interests within 2 km of the provided Connection Route.

For these purposes, critical habitats are considered to comprise ancient woodland, blanket bog and montane scrub. Montane scrub is included because several montane willow *Salix* species are very rare and a small amount of montane willow scrub was found during surveys to inform the EIAR, thus other occurrences in the region are possible.

With the exception of the qualifying / notified features of Special Areas of Conservation (SAC) and Sites of Special Scientific Interest (SSSI), other protected and notable species relevant to terrestrial ecology, and habitats other than the critical three habitats listed above, are not considered in detail in this Technical Note. This is because potential effects on such other species and habitats are unlikely to exceed Local significance¹, which is not Significant in EIA terms. Effects on such features as assessed in the EIAR did not exceed Local significance, and the footprint of the Project on generally similar habitat is considerably larger than that of the Connection Route.

With further regard to protected species, the Connection Route appears to primarily impact blanket bog on moderate altitude open moorland, where otter *Lutra lutra* and water vole *Arvicola amphibius* are likely but other protected species would likely occur infrequently (similarly to the area surveyed for the EIAR). Otters have very large home ranges with resting sites and foraging habitat spread through them, such that the impacts of a narrow Connection Route on otter are unlikely to exceed Local significance. Water vole populations are possible along suitable watercourses or standing waters in the vicinity of the Connection Route, but the small scale of watercourse crossing points and typical maintenance (as far as possible) of buffers between works and watercourses suggest that water vole impacts would similarly not exceed Local significance. Local impacts on coniferous plantation woodland are possible (at the western end of the Connection Route if SSEN altered the alignment to pass through it; impact on ASNW at the eastern end of the Connection Route is not expected – see Ancient Woodland below) but are very unlikely to cause impacts on roosting, foraging or commuting bats, or red squirrel *Sciurus vulgaris* habitat or dreys, that would exceed Local significance (considering also that in this part of northern Scotland only common and widespread bat species are likely). Badger *Meles meles* and pine marten *Martes martes* would not be expected to be frequent in the remoter open and acidic moorland that underlies most of the Connection Route, thus again significance of impact would not be likely to exceed Local Significance. However, it would ultimately be SSEN that would carry out design and environmental assessment of the Connection Route, and thus it would be SSEN that would address any protected species licensing issues that might arise, and implement mitigation / compensation measures associated with licensing (or to address habitat impacts).

Assessment – designated sites

Strathglass Complex SAC

The qualifying features of this SAC are numerous habitats and otter. This very large SAC is 2.9km from the centreline of the Connection Route at closest, and on the opposite side of the River Glass. As such, pollution from the works even if unmitigated (which would not be the case) could not reach the SAC. In view also of the nature of development, there is no realistic pathway by which likely significant effects could arise on the numerous qualifying habitats of this SAC. Potential impact on otter (the only qualifying species of the SAC) is theoretically possible since watercourses crossed by the western end of the Connection Route are well within commuting distance of otter from the SAC (the separation distance following downstream watercourses is as little as 6km). However, impacts on the qualifying otter population are likely to be negligible assuming implementation of standard mitigation to prevent harm to otters during construction and maintain passage through constructed culverts. Thus there would not be expected to be likely significant effects (in an HRA as well as EIA context) on Strathglass Complex SAC.

Glen Moriston SAC

The qualifying features of Glen Moriston SAC are freshwater pearl mussel *Margaritifera margaritifera* and Atlantic salmon *Salmo salar*. This SAC lies in a different water catchment to the Connection Route. The closest point to the catchment of Glen Moriston is the section around Ordnance Survey grid reference NH350242 – in order for the Connection Route to run within the Glen Moriston catchment in this vicinity, the final route designed by SSEN would need to shift at least 1km southwards, which is improbable (because it would place the Connection Route in more remote and higher moorland including wetter watershed areas with more lochans, thus rendering construction more difficult). It is therefore likely that the final Connection Route designed by SSEN would remain outside the Glen Moriston catchment. There is also no realistic pathway by which the Connection Route could affect Loch Ness into which this SAC flows and through which the qualifying Atlantic salmon migrate. It is

¹ On the geographical scale of importance recommended by the Chartered Institute of Ecology and Environmental Management (CIEEM), as employed in Chapter 7: Terrestrial Ecology EIAR.

therefore highly probable that the final Connection Route would have no likely significant effects on the qualifying features of this SAC.

Glen Affric SSSI

The non-ornithological notified features of this SSSI are native pine woodland and dragonfly/lichen assemblages. The nearest parts of this SSSI are coincident with Strathglass Complex SAC (see above), and are therefore also at closest 2.9km from the centreline of the Connection Route and on the other side of the River Glass. Similarly to the SAC, there is no realistic pathway by which significant (or indeed any) adverse effects could arise on the notified pinewood, nor on the dragonfly and lichen populations within the SSSI.

Glen Affric NNR

The closest boundary of Glen Affric NNR is 390 m west of the western-most part of the Connection Route centreline (slightly more distant than the closest Caledonian Pinewood, regarding which see below). For the same reasons set out for Caledonian Pinewood below, there would be no impact on native pinewood habitat within the NNR, nor on loch or moorland habitats within it. Non-avian fauna would not be affected significantly or at all for the reasons set out for Strathglass Complex SAC and Glen Affric SSSI above.

Assessment – critical habitats

Caledonian Pinewood

By reference to the Caledonian Pinewood Inventory (CPI; available at <https://map.environment.gov.scot/sewebmap/>), the Connection Route does not closely approach Caledonian Pinewood. The western-most 500 m of the Connection Route centreline lies within a Caledonian Pinewood Buffer Zone; however, the CPI does not show any actual Caledonian Pinewood in the vicinity of the Connection Route – the nearest parcel (part of a group called ‘Guisachan’) lies approximately 360 m west of the Connection Route centreline at closest (the associated regeneration zone is at closest approximately 260 m west, thus also not within the 250 m buffer on the centreline).

However, it is important to note that the existing Beauldy-Denny OHL (about 220 m west of the western-most end of the Connection Route centreline) is situated between the nearest Caledonian Pinewood and the Connection Route. As such, it would not be possible for SSEN to re-align the Connection Route sufficiently west so as to impact Caledonian Pinewood.

Consequently, even allowing for standard limit of deviation plus possible general re-alignment by SSEN of the western-most part of the grid connection, there would likely be no impact on Caledonian Pinewood.

Ancient woodland

For the purposes of this assessment, the eastern-most UGC part of the Connection Route (approximately 2 km), connecting to the Gas Insulated Switchgear (GIS), is assumed to be installed by underground micro-tunnelling. In a direct line, this section passes under ancient semi-natural woodland (ASNW) parcels listed in the Ancient Woodland Inventory (AWI). No other part of the provided Connection Route could realistically impact ancient woodland (the majority crosses open moderate altitude moorland, and the western end does not closely approach ancient woodland shown in the AWI).

It is assumed that micro-tunnelling would be used for the UGC, and that temporary access for the Connection Route would seek to avoid ASNW.

It is assumed that the micro-tunnelling procedure would commence well outside the area of ASNW, and would be at a deep subterranean location (within bedrock) when passing below ASNW. Consequently, and in that assumption, no impact is likely on ASNW in the vicinity of the Connection Route.

Blanket bog

Approximately 10km of the Connection Route passes through Class 1 peatland, which dominates the route (Class 2 peatland is scarce in comparison). An approximate measurement of the extent of blanket bog indicated in the Land Cover Map of Scotland 2022 (EUNIS Level 2) dataset gives a similar figure. The latter dataset shows

some blanket bog outside of Class 1 peatland, and some non-bog habitat (heath, which will almost entirely be wet heath) within Class 1 peatland. It is reasonable to expect similarities in topography between the Connection Route and the surveyed Project area (which are in the same broad geological setting), which similarly found that not all Class 1 peatland was blanket bog and that some blanket bog occurred outside Class 1 peatland and even outside Class 2 peatland (typically drier forms of blanket bog, not uncommonly with the notable bog species dwarf birch *Betula nana*). However, given the dominance of Class 1 peatland along the Connection Route and the similar total extent along it suggested by the Land Cover Map of Scotland 2022, it is reasonable to assume that an approximate length of 10km of blanket bog would be impacted along the Connection Route.

The Connection Route as provided crosses some likely good condition blanket bog areas in which contour spacing is very wide and hence the ground is extensively flat, including terrain near Loch a'Choire Bhuidhe and Loch nam Meur. Such areas include visible pools and channels on aerial imagery, and are likely to include wet blanket bog with abundant sphagnum (potentially including the notable bog species *Sphagnum austinii*, as was locally found in the area surveyed for the EIAR), that under the Peatland Action classification may be classifiable as 'Near Natural'. Impact on such wet areas would, however, likely be minimised by SSEN during their refinement of the design using data from field surveys commissioned by them, and in the knowledge that NatureScot / SEPA expect 'Near Natural' bog to be avoided as far as possible.

Assuming a temporary access track would be constructed beside the Connection Route through the estimated 10km of blanket bog, and assuming the track would have a width of 4m, this gives an estimated direct impact on blanket bog of 4ha. Accounting for tower footprints and increased length of the access track for track spurs and to avoid obstacles, the actual amount of impact on bog loss would likely be closer to 5ha. However, permanent loss of blanket bog to the Project was calculated to be over 80ha, primarily owing to the required siting of the Headpond. As a result, and although the estimated 4 to 5ha of impact is additional to that calculated for the Project, blanket bog loss to the Connection Route is not likely to be of sufficient magnitude to warrant increasing the level of significance (pre-compensation) stated in the EIAR (Regionally significant, and Significant in EIA terms). In order to maintain the post-compensation significance of Not Significant as stated in the EIAR, further (likely off-site) peatland restoration would be required in proportion to the finalised impact on blanket bog caused by the Connection Route, which would be determined by SSEN following their detailed alignment design and environmental assessment.

Montane scrub

A review was carried out on 01/04/2026 using <https://database.bsbi.org/maps/> of scarce montane willow species (stated by the Mountain Scrub Action Group at https://www.msag.org.uk/uploads/4/0/7/3/40732079/mountain_woodlands_best_practice.pdf to comprise mountain willow *Salix arbuscula*, woolly willow *Salix lanata*, downy willow *Salix lapponum*, net-leaved willow *Salix reticulata* and whortle-leaved willow *Salix myrsinites*). This found that the only known tetrad records of such species in the region between Glen Urquhart, Glen Affric and Glen Moriston are a) of whortle-leaved willow at NH42L (which includes the north face of Meall Fuar-mhonaid where it was found during surveys for the EIAR), b) of the same species in tetrad NH31J (which includes Loch Liath, and in which likely suitable steep slopes are approximately 4km south of the Connection Route at closest), and c) of downy willow in tetrad NH31D (in which likely suitable steep slopes are approximately 5km south of the Connection Route at closest).

All the above tetrad records have in common the presence of particularly steep mountain slopes, where grazing must be sufficiently light to allow such willow species to survive. The Connection Route is very largely situated on shallower slopes apparently dominated by blanket bog (not typical habitat of montane willow scrub), and where deer grazing will be too high (unless areas have been fenced to exclude deer). Although there are localised slopes near the Connection Route that could be sufficiently steep to support the above montane willow species, it is improbable that SSEN would design the Connection Route or associated access such that they directly impact such steep slopes, for practical construction reasons.

Dwarf birch is also a montane scrub species but is widespread in drier blanket bog and occasionally wet heath in the Project vicinity. It will very likely also be widespread in such drier bog and wet heath in the vicinity of the Connection Route. As such, overall impact from the small footprint of the Connection Route on dwarf birch would be likely to be minor.

For these reasons, it is very unlikely that the Connection Route would incur damage to montane willow scrub species, and impact on dwarf birch is unlikely to be significant. Thus, the degree of significance pre- and post-compensation for montane scrub would likely remain as stated in the EIAR.

Conclusion

This assessment has been undertaken on the basis of the indicative Connection Route and the following key assumptions: that microtunnelling will be used for the underground cable section; that the final Connection Route produced by SSEN would not differ significantly from that assessed; that standard measures to protect qualifying otters that may reach the site from Strathglass Complex SAC would be implemented; and that SSEN would undertake detailed field surveys to accurately inform their assessment, mitigation and compensation.

Where additional habitat impacts arise, of which the most significant would be further blanket bog loss estimated at 4–5 ha, proportionate additional compensation would be required in order to maintain the post-compensation significance conclusions of the EIAR. Minor additional compensation for ancient semi-natural woodland loss may also be required depending on the final cable routing and tunnelling depth confirmed by SSEN.

Subject to the above assumptions and the implementation of further habitat compensation as needed, it is concluded that having regard to the cumulative assessment approach used in the EIAR for the Proposed Development, the Grid Connection Project would not result in likely significant effects on terrestrial ecological features additional to those already identified in the EIAR.