Appendix 8.2
Protected Species

Appendix 8.2 Protected Species

Scope

1.1 This Appendix relates to the protected species surveys undertaken to inform the Ecological Impact Assessment (EcIA) of the EDM Project. The appendix includes an account of the scope of the surveys, the methods adopted, baseline findings and an interpretation of results. The appendix should be read in conjunction with **Chapter 8: Ecology and Ornithology** of the Environmental Impact Assessment (EIA) Report.

1.2 For the purposes of this appendix, the EDM Project encompasses the construction of the New 132kV OHL and the removal of the Existing 132kV OHL. The project is described in detail in **Chapter 4: Project Description** of the EIA Report.

Supporting Documents

1.3 The Appendix is supported by a series of figures, in **Appendix A**. Figures include:

- **Figure 8.2.1: Study Area**
- **Figure 8.2.2: Protected Species Survey Results**

1.4 Photographs undertaken during surveys are presented in **Appendix B.** Due to their ongoing persecution in Renfrewshire and Inverclyde, the findings of badger surveys are presented in **Confidential Appendix C.** Detailed Great Crested Newt HSI calculations are set out in **Appendix D**.

Competency

1.5 All protected species surveys were undertaken within appropriate seasonal windows, in 2018 and 2019, by academically and professionally qualified LUC ecologists. The data has been assessed by ecologists with extensive experience in interpreting protected species data sets.

Methods Overview

1.6 The methods adopted in the survey, outlined in detail below, including a desk study and field studies for the following species/taxa (target species):

- Bats (habitat suitability only).
- Otter.
- Water vole.
- Badger.
- Great crested newt (GCN) (habitat suitability only).

1.7 The range of survey methods adopted accord with best practice guidance produced by the Chartered Institute of Ecology and Environmental Management[i] and the British Standards Institute[ii].

Desk Study

1.8 To provide additional background information, a study of available online resources, including SNH Site Link[iii] and Renfrewshire SINCs[iv] websites, was undertaken to identify sites designated for their nature conservation value. A search was undertaken, within a 5km radius from New 132kV OHL, for statutory designated sites, and within 2km of the New 132kV OHL for non-statutory designated sites. Inverclyde Council was approached for records of non-statutory sites within their jurisdiction, but a response was not forthcoming. A search was also made of the Ancient Woodland Inventory (AWI)[v] for relevant woodland features within 2km of the New 132kV OHL. The findings of this comprehensive Desk Study are detailed in **Technical Appendix 8.1 Habitats and Vegetation**.

1.9 The Desk Study also included a search of the NBN Atlas[vi] for records of protected species within 2km of the New 132kV OHL. This part of the Desk Study was completed in April 2018 and included records of target species collected since 2000.

Field Studies

Study Areas

1.10 Surveys for bats, water vole, badger and great crested newt (GCN) were undertaken within the New 132kV OHL development footprint (which includes all construction infrastructure), 70m wayleave and a 50m buffer (reflecting the ILA). Surveys for otter were undertaken within the development footprint, wayleave and a buffer up to 200m. Survey buffers are hereafter referred to as the Study Area.

1.11 Targeted species surveys were not undertaken of the Existing 132kV OHL route, as the location of towers, and necessary access routes, are known and thus there was limited opportunity to inform the design process. However, a general constraints walkover aimed to identify evidence of the protected species listed above within a 50m buffer was undertaken, ensuring all necessary mitigation measures, and legal compliance, could be achieved during works.

1.12 The Protected Species Study Area is presented in **Figure 8.2.1** in **Appendix A.**

Bats

1.13 Bat Roost Potential (BRP) surveys were undertaken between April 2018 and September 2019, following current good practice guidelines[vii]. An assessment was made of buildings, scattered trees and woodlands within the Study Area. Where necessary, ladders, torches and endoscopes were used to fully determine the roost potential of individual trees, however where woodland was particularly dense, a generalised BRP Category was assigned to the woodland/stand/coup as a precautionary measure.

1.14 The suitability of trees and buildings to support roosting bats is categorised as described in the **Table 2.1**.

Table 1.1: Bat Roost Potential (BRP) Categories

BRP Category	Roosting Habitat Features	Commuting and Foraging Habitat Features	Detailed Survey Requirement
Negligible	Negligible habitat features likely to support roosting, commuting or foraging bats		No Surveys Required
Low	Structures in this category offer one or more potential roost sites for individual, opportunistically roosting bats. These sites do not offer the space, shelter or appropriate conditions to support large numbers of bats or maternity roosts. Tree in this category include those of sufficient size and age to support suitable roosting features, but none are visible from the ground	Habitat on and around the site could be used by a small number of commuting bats. This category includes densely urbanised landscapes or linear vegetation features poorly connected to the wider landscape (e.g. gappy hedges in an agricultural context).	1 dusk or dawn survey required for structures. No surveys required for trees.
Moderate	Structures and trees in this category offer one or more roost site that, due to their space, shelter or conditions, offer roosting potential for a range of species. Roosts may be more permanent, rather than opportunistic. Small maternity roosts of common species may form in one of these roost sites.	Habitat on and around the site is well-connected to wider continuous habitat and offers commuting and foraging habitat to a larger number of bats across a number of species. (e.g. tree lines or linked gardens in the urban context, or continuous hedge/ tree lines and watercourses in an agricultural setting)	1 dusk and 1 dawn survey required for both structures and trees. Tree-climbing may be an appropriate alternative to dusk and dawn surveys.
High	Structures and trees in this category have one or more potential roost sites that are suitable for large number of bats. Roosts are likely to be permanent and include maternity roosts. Potential roost sites exist for a wide range of species or species of particular conservation interest	Habitat on and around the site is diverse, continuous and linked to extensive suitable habitat. This category includes well-vegetated rivers, streams, hedgerows and woodland edge.	3 surveys, including both dusk and dawn elements. Tree-climbing may be an appropriate alternative to dusk and dawn surveys.

BRP Category	Roosting Habitat Features	Commuting and Foraging Habitat Features	Detailed Survey Requirement
		Habitat is sufficiently diverse to offer opportunities to a wide range of species or those of particular conservation interest.	

1.15 BRP survey allows the identification of potential roost sites that may be impacted by development and for future survey effort to be designed, if necessary.

1.16 Detailed bat activity/roost surveys were not undertaken as the scale and location of trees to be removed were not known at the time of survey. Further information relating to future bat surveys is provided in **Chapter 8: Ecology and Ornithology**, of the EIAR.

Otter

1.17 Otter surveys were undertaken in summer 2018. All suitable watercourses and waterbodies within the otter Study Area were searched for signs of evidence, in accordance with good practice guidelines[viii]. All surveys were completed in normal flow conditions and river levels had been low in preceding days.

1.18 The presence of otter was determined by the identification of characteristic field signs, including spraints, footprints, otter slides, feeding remains and resting sites. Resting sites are classified in **Table 2.2**, however classification normally relies on a degree of professional judgement, due to overlapping evidence.

Table 1.2: Otter Resting Site Classification

Resting Site Type	Description
Breeding site	An area of land in which otters breed. The site may include a number of natal holts, which may be used simultaneously by a nursing female and her cubs.
Natal holt	A discreet holt site that is used by a female to birth cubs, where they will normally remain for up to 3 months, before being moved to a secondary holt. These sites are seldom located during surveys and they are rarely recorded without the aid of camera traps. It is generally accepted that most natal holts will contain bedding material and sprainting activity is minimal whilst occupied.
Holt	A cavity or hole on or adjacent to a water course. It may be in the ground, under tree roots, within rocks or caves, where it cannot be readily observed. It a holt is confirmed as active it usually contains field evidence such as spraint.
Hover	A bolt hole or ledge that provides temporary cover or a place to eat prey. It is not fully enclosed and the back of the feature can normally be observed. There may be spraints, footprints and feeding evidence present.
Couch	An above-ground shelter, normally used for lying-up and grooming. They may take the form of a depression in tall vegetation or may be covered in a vegetated grass 'roof'.

Water Vole

1.19 Water vole surveys were undertaken during summer 2018, following good practice survey methods[ix]. The water vole survey comprised of a search for signs of water vole up to 10m from the banks of all suitable watercourses and ponds within the Study Area. Suitable features were considered to include slow-flowing watercourses, including ditches, watercourses with overhanging and banks, and watercourses that supported a range of bankside and emergent vegetation, particularly rushes.

1.20 Surveyors walked along all suitable habitats searching for the presence of water vole signs including burrows, runs, tracks, feeding stations, droppings and latrines. Emphasis was placed on locating latrine sites are burrows, as they are the most useful means of estimating population sizes.

Badger

1.21 Badger surveys were undertaken between April 2018 and September 2019, in accordance with recognized good practice[x]. The badger survey consisted of a walkover of the Study Area, during which all evidence of badger was recorded. Field signs included diagnostic footprints, tracks, paths, foraging signs (snuffle holes), guard hair, dung pits/latrines and setts.

1.22 Where a badger sett was recorded, it was classified into sett categories depending on specific characteristics, including the number of entrances, evidence of current use and proximity to other setts. Sett types are described in **Table 2.3**.

Table 1.3: Badger Sett Classification

Sett Type	Description
Main	These usually have a large number of entrances (8+) with large spoil heaps. The sett generally looks well-used and is likely to be used year round. It is the main site of breeding and cub rearing. They may have well-used paths to and from the sett and between sett entrances.
Appendixe	These usually have a large number of entrances with large spoil heaps. The sett generally looks well-used and is connected to a main sett by clear tracks and paths.
Subsidiary	These setts often only have a few entrances and are located at least 50m from a main sett. They are not continuously active and evidence may be limited.
Outlier	These setts may have only one or two entrances with little spoil. Used sporadically, these setts often show little signs of use.

Great Crested Newt

1.23 All ponds and waterbodies within the Study Area were subject to a Habitat Suitability Index (HSI) assessment for great crested newt[xi]. Field surveyors measured all necessary parameters, visiting each pond more than once if a particular parameter could not initially be discerned (e.g. presence of fish or waterfowl).

1.24 The HSI is a numerical index, between 0 and 1; values close to 0 indicate unsuitable habitat, 1 represents optimal habitat. The HSI for the great crested newt incorporates 10 suitability indices, all of which are factors known to affect this species. Parameters measured included:

- Pond surface area.
- Pond permanence (i.e. seasonal drying).
- Water quality (based on a qualitative scale).
- Shoreline shading (i.e. the presence of over-hanging vegetation, expressed as a proportion).
- Presence of fish.
- Presence of waterfowl.
- Macrophyte cover (expressed as a proportion).
- Suitability of adjacent terrestrial habitat for other stages of newt lifecycles.
- Proximity to other suitable ponds.

1.25 Three ponds, those with '*Below Average'* suitability, were surveyed using eDNA analysis following the SureScreen Scientifics Ltd protocol. eDNA analysis is a method for species monitoring in waterbodies. SNH has approved this method for the determination of great crested newt (GCN) presence or absence. eDNA analysis gives a quick GCN presence/absence result from a water sample which is collected following a specific protocol.

1.26 Samples were collected on 30th May 2019 and analysis was undertaken by SureScreen Scientifics Ltd.

Other Species

1.27 A watching brief was maintained during all field surveys to record evidence of other notable species, (including, but not limited to, common lizard, slow worm, and adder). Where evidence was recorded, this was documented and is reported within this Technical Appendix.

Survey Limitations

1.28 All ecological surveys represent a snapshot in time. Protected species populations are dynamic and change over time in response to a range of variables. Data presented in this report should not be considered a long-term interpretation of ecological data and should not be relied upon as such.

1.29 While weather conditions were, in general, optimal, occasional rain, flooding, and snow showers may have resulted in the loss of field evidence. While this limitation is recognised, it is not considered to undermine the value of the data collected which is considered sufficiently robust for the purposes of informing the EcIA.

1.30 Absence of protected species data in certain areas of 'Not Surveyed' land is a limitation of the collected data. 'Not Surveyed' areas comprise land where access was refused, or where proposed access arrangements for the development were added/changed in the post-survey period. 'Not Surveyed' land accounts for less than 10% of the total Study Area, thus the absence of data is unlikely to affect the interpretation of the Study Area's importance for target protected species.

1.31 Detailed protected species surveys were not undertaken along the Existing 132kV, however a walkover survey which aimed to identify key constraints, including resting sites of protected species, was completed.

1.32 While care has been taken to collect and review protected species data, it is not possible to account for any changes that may occur from the period of data collection to the time of works commencing.

Desk Study

1.33 Historic records of target protected species within the Study Area include:

- Bat species, including Common pipistrelle, Soprano pipistrelle, Brown long-eared bat, Daubenton's bat, Natter's bat and Myotis bat species.
- Otter.
- Water vole.
- Badger.

Field Studies

1.34 The results of the protected species surveys are outlined below. When considering the data provided below, reference should be made to the following figures in **Appendix A**:

- **Figure 8.2.1**: Study Area
- **Figure 8.2.2**: Protected Species Survey Results

1.35 Photographs undertaken during surveys are presented in **Appendix B**.

Bats

1.36 The Study Area offered a range of different habitat types including woodlands, scattered trees, tree lines, hedgerows, watercourses and reservoirs which, subsequently, offer high quality foraging and commuting habitat for a range of bat species, including those known to be active within 2km. The presence, and connectivity, of these features, increase the potential for roosting bats to be present within the Study Area.

1.37 Numerous woodlands and scattered trees with high and moderate Bat Roost Potential BRP were recorded throughout the Study Area and are mapped (**Figure 8.2.2, Appendix A; Photograph 1, Appendix B**).

1.38 Three structures with BRP were recorded within the Study Area. A derelict cottage located west of road B789 offered moderate bat roosting potential (**Figure 8.2.2, Appendix A; Photograph 2, Appendix B**), whereas two remnant chimneys situated nearby Drumcross Road provided low BRP.

Otter

1.39 The Study Area offered a range of suitable resting, foraging and commuting habitats for otter, most notably Dargavel Burn, Leperstone and Auchendores reservoirs. However, smaller streams, ponds, small lochs and wetlands also provide suitable habitat.

1.40 Evidence of otter was recorded throughout the Study Area (**Figure 8.2.2, Appendix A**), along Dargavel Burn, in the northeast along a small unnamed stream, and in the eastern section of the Study Area. Recorded evidence included one resting site, two footprints and numerous spraints. **Photograph 3, Appendix B** shows an example of a spraint recorded at Dargavel Burn.

1.41 The resting site, a couch (**Photograph 4, Appendix B**), was located on a concrete shelf under the Gallahill Road bridge, over the Dargavel Burn, and contained 25 recent spraints, suggesting extensive use.

Water Vole

1.42 The Study Area supported some suitable habitat for water vole including ponds, reservoirs, and watercourses. In particular, parts of Dargavel Burn offered suitable burrowing and foraging habitat for the species. This watercourse was characterized by slow water flow and its banksides supported suitable food plants, including various grass and rush species.

1.43 The majority of watercourses within the Study Area, however, were less suitable. They were generally fast flowing and not suitable for burrow creation, largely due to poaching by livestock.

1.44 Footprints resembling those of water vole were noted at the edge of Dargavel Burn, however, because water vole prints are not conclusive, there was not enough evidence to confirm water vole presence at this location.

Badger

1.45 Due to their ongoing persecution in Renfrewshire and Inverclyde, detailed figures of badger survey findings are presented in **Confidential Appendix C**.

1.46 The Study Area offered optimal habitat for badgers throughout its whole length, owing to the mosaic of woodlands, grasslands and arable fields that provided suitable habitat for foraging and commuting. The Study Area was also suitable for sett creation including habitats such as woodlands, areas of gorse scrub and sloping ground.

1.47 Evidence of badgers including setts, paths and prints was recorded.

1.48 Five badger setts were recorded within the Study Area, details of each are provided in **Table 3.1**. Setts were generally recorded on the edges of woodland or forest features, with clear access to adjacent foraging opportunities in pasture or silage fields. **Photograph 5 in Appendix B** shows one of the entrances to the main badger sett.

Table 1.4: Recorded Badger Setts

Badger Sett ID	Sett Type	Level of Use	No. Entrances	Evidence
1	Subsidiary	Part used	3	■ Diagnostic shape and structure (incl. spoil heap) ■ Footprints ■ Tracks and paths ■ Guard hair
2	Subsidiary	Part used	4	■ Diagnostic shape and structure (incl. spoil heap) ■ Footprints ■ Tracks and paths ■ Guard hair
3	Subsidiary	Not in use recently	2	■ Diagnostic shape and structure (incl. spoil heap)
4	Main	Well used	6	■ Diagnostic shape and structure (incl. spoil heap) ■ Footprints ■ Tracks and paths ■ Guard hair

Great Crested Newt

1.49 With the exception of Auchendores and Leperstone reservoirs, waterbodies within the Study Area were limited to small accumulations of surface water in depressions and hollows in pastures. Most ponds were impermanent and supported minimal egg-laying habitat.

1.50 There were six waterbodies, including Leperstone reservoir and various field ponds, within the Study Area. All waterbodies within the Study Area were considered for their potential to support GCN and were subject to HSI survey. Ponds were assessed as having poor or below average suitability to support a breeding population of GCN. This was due to their overshaded nature, presence of waterfowl, and/or limited egg-laying habitat. Results are presented in the **Table 3.2** and full HSI calculations are provided in **Appendix D**.

1.51 Where ponds were considered to be 'Below Average', but not poor, they were further subjected to eDNA survey methods. The findings of the eDNA tests are also provided in **Table 3.2**.

Table 1.5: HSI and eDNA Results of Study Area Waterbodies

Waterbody Number	HSI Outcome	Category	eDNA Result	Comment
1	0.25	Poor	n/a	A large reservoir surrounded by broadleaved woodland.
2	0.57	Below Average	Negative	A large field pond surrounded by marshy grassland.
3	0.56	Below Average	Negative	A medium size field pond surrounded by grassland with scattered scrub.
4	0.38	Poor	n/a	A large field pond within improved grassland.
5	0.54	Below Average	Negative	A medium size filed pond surrounded by grassland and scattered trees.
6	0.42	Poor	n/a	A small filed pond within improved grassland.

Other Species

1.52 The varying structure and coverage of vegetation within the Study Area offered suitable habitat for refuge and foraging for common reptile species, such as slow-worm and common lizard. However, no reptiles were recorded during surveys. There were numerous stone piles, mostly associated with fallen stone dykes, recorded throughout the Study Area that were considered suitable as hibernacula for reptiles (**Figure 8.2.2, Appendix A**).

Interpretation

Bats

1.1 Extensive suitable habitats exist for bats, including those relatively common species identified during the Desk Study. Roosting opportunities are likely to be extensive and it is anticipated that multiple bat roosts are present within the Study Area, within both building and trees. Owing to the range of roosting opportunities, a mixed assemblage of more common pipistrelle bats and less common tree-dwelling species, including Daubenton's Bat, may be present.

1.2 Foraging opportunities are wide-ranging and it is likely that bats will utilise most of the habitat resource within the Study Area.

Otter

1.53 Otter evidence was limited, with only one resting site identified. It is unlikely that the Study Area forms a particularly important part of an otter territory, however the Dargavel Burn, the only significant watercourse in the Study Area, may be of value for foraging and commuting across a wider territory.

Water Vole

1.54 .Much of the Study Area was of limited suitability for water vole, with the Dargavel Burn the notable exception. No burrows were recorded, suggesting that the species is likely absent. The Study Area is unlikely to be important for this species.

Badger

1.55 The Study Area supports extensive suitable habitat for badger. Accordingly a number of setts were identified during surveys. While only one main sett was recorded, it should be recognised that the Study Area is likely to support parts of a number of badger territories and the absence of main setts from the data set should not be interpreted as an absence of the species from the wider landscape.

Great Crested Newt

1.56 Most of the waterbodies within the Study Area were unsuitable for the species and this was borne out by eDNA surveys in those ponds most likely to support GCN. The reliability of GCN eDNA surveys are such that it can be considered, reasonably accurately, that the species is absent from the Study Area.

Appendix A

Figures

Erskine to Devol Moor
for SPEN

LUC

Figure 8.2.1: Study Area

- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New Access
- New Access (Stone)
- Existing Access
- 5km – statutory designated sites
- 2km – non-statutory designated sites
- Study area for aquatic protected species
- Study area for terrestrial protected species

0 2.5 5 km

Map scale 1:90,000 @ A3

CB:MN EB:Nicholson_M LUC FIG08-02-01_7058_Ecology_StudyAreas_A3L 08/04/2020
Source:

SP ENERGY NETWORKS

Erskine to Devol Moor
for SPEN

LUC

Figure 8.2.2a: Protected Species Survey Results

Study area for terrestrial protected species
Study area for aquatic protected species
Proposed Erskine to Devol Moor route
New 132kV OHL (wood pole)
Existing 132kV OHL (towers to be removed)
New Access
Existing Access
Construction Compound
Working Area
Proposed Stone Laydown Area
Pulling Position

Tree with Bat Roost Potential (BRP)

BRP Low
BRP High
Bat area

Map scale 1:8,000 @ A3

CB:MN EB:Nicholson_M LUC FIG08-02-02_7058_Ecology_ProtectedSpecies_A3L 26/04/2020
Source:

SP ENERGY NETWORKS

Erskine to Devol Moor
for SPEN

LUC

Figure 8.2.2b: Protected Species Survey Results

- Study area for terrestrial protected species
- Study area for aquatic protected species
- Proposed Erskine to Devol Moor route
- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New Access
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position

Tree with Bat Roost Potential (BRP)

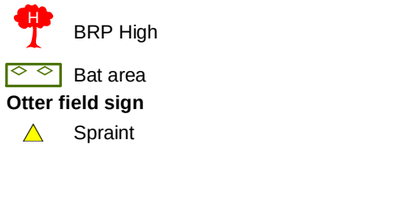
- BRP Low
- BRP High
- Bat area

Otter field sign

- Spraint

Map scale 1:8,000 @ A3

0 0.5 1 km



SP ENERGY NETWORKS

CB:MN EB:Nicholson_M LUC FIG08-02-02_7058_Ecology_ProtectedSpecies_A3L 26/04/2020
Source:

Erskine to Devol Moor
for SPEN

LUC

Figure 8.2.2c: Protected Species Survey Results

Study area for terrestrial protected species
Study area for aquatic protected species
Proposed Erskine to Devol Moor route
New 132kV OHL (wood pole)
Existing 132kV OHL (towers to be removed)
New Access
Existing Access
Working Area
Proposed Stone Laydown Area
Pulling Position
GCN Pond

Tree with Bat Roost Potential (BRP)

BRP Low
BRP High
Bat area

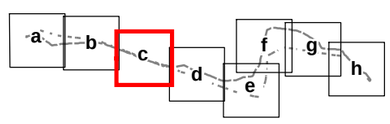
Other species field sign

Brown hare

Auchendores Reservoir
Leperstone Reservoir
Pond 1
Auchendores Cottages
Castlehill Farm
High Castlehill
Enclosure
Cloak Cottage
North Craigmarlock
South Craigmarlock
Finlaystone Glen
Knockmountain Wood
Knockmountain
Langside
Creachann
Cairnkibbuck Knowe
Sowback Plantation
Windmill Wood
Kays Wood
Stables Wood
Auchenbothie Wood
Lamb Craig
Spring Wood
Wood Cottage
Hill of Leperstone
Cemetery
Planetreeyetts
Livestock Pen
Depot
Dam
Overflow
Drain
Track
Path
FB
Iss
Sks
Spr
CLOAK RD
FINLAYSTONE ROAD
PORT GLASGOW ROAD
A8
ESS
G060
G055

0 0.5 1 km

Map scale 1:8,000 @ A3



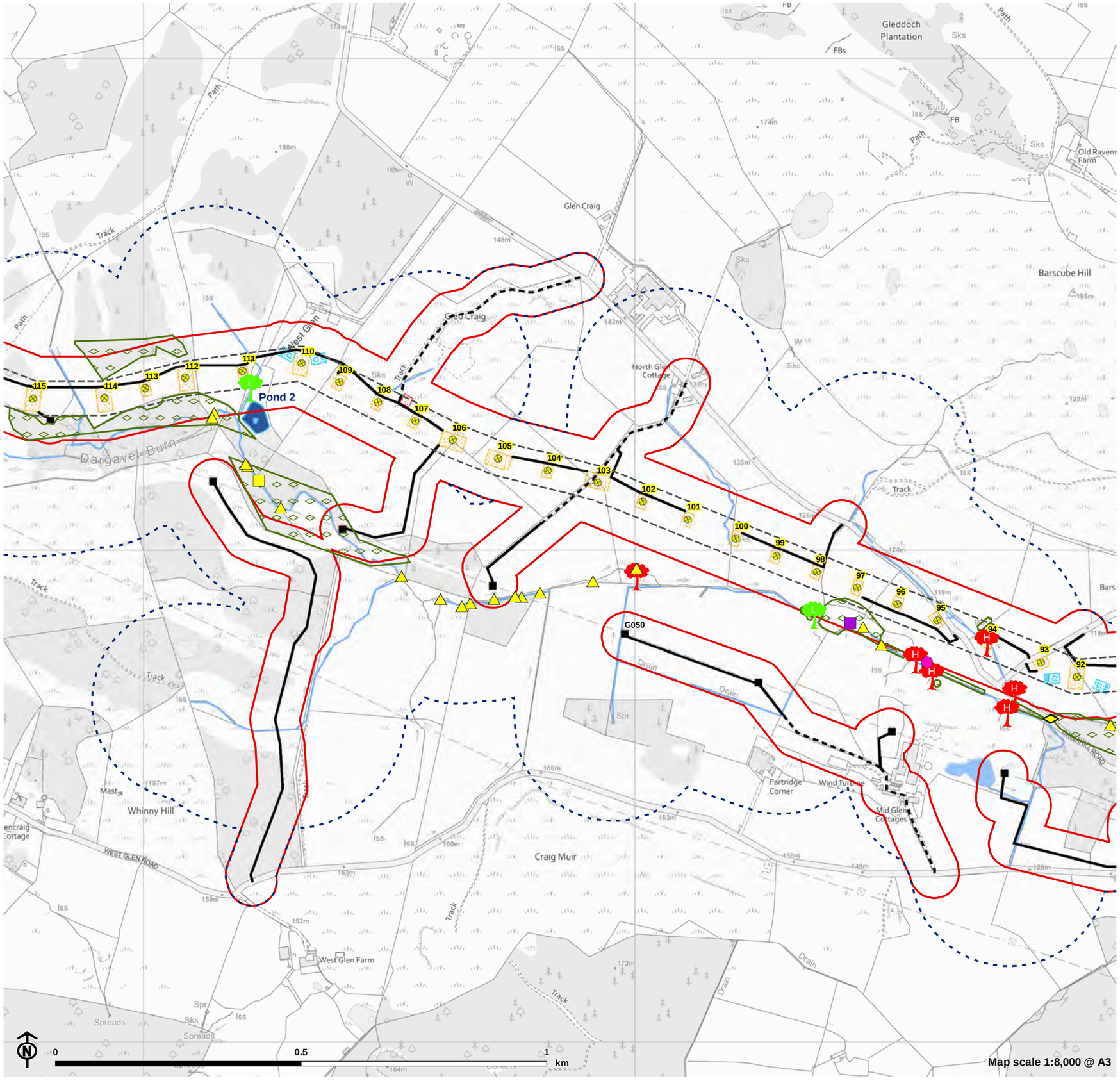
SP ENERGY NETWORKS

CB:MN EB:Nicholson_M LUC FIG08-02-02_7058_Ecology_ProtectedSpecies_A3L 26/04/2020
Source:

Erskine to Devol Moor
for SPEN

LUC

Figure 8.2.2d: Protected Species Survey Results



Study area for terrestrial protected species
Study area for aquatic protected species
Proposed Erskine to Devol Moor route
New 132kV OHL (wood pole)
Existing 132kV OHL (towers to be removed)
New Access
Existing Access
Working Area
Proposed Stone Laydown Area
Pulling Position
GCN Pond

Tree with Bat Roost Potential (BRP)

BRP Low
BRP High
Bat area

Otter field sign

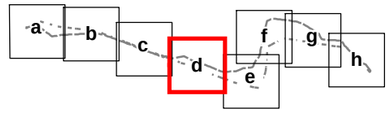
Resting site - Couch
Footprint
Spraint

Water vole field sign

Footprint

Other species field sign

Brown hare



SP ENERGY NETWORKS

CB:MN EB:Nicholson_M LUC FIG08-02-02_7058_Ecology_ProtectedSpecies_A3L 26/04/2020
Source:

Erskine to Devol Moor
for SPEN

LUC

Figure 8.2.2e: Protected Species Survey Results

- Study area for terrestrial protected species
- Study area for aquatic protected species
- Proposed Erskine to Devol Moor route
- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New Access
- New Access (Stone)
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position
- GCN Pond

Structure with Bat Roost Potential (BRP)

- BRP Moderate

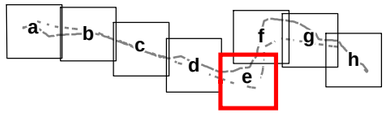
Tree with Bat Roost Potential (BRP)

- BRP Low
- BRP High
- Bat area

Otter field sign

- Spraint

Map scale 1:8,000 @ A3



SP ENERGY NETWORKS

CB:MN EB:Nicholson_M LUC FIG08-02-02_7058_Ecology_ProtectedSpecies_A3L 26/04/2020
Source:

Erskine to Devol Moor
for SPEN

LUC

Figure 8.2.2f: Protected Species Survey Results

- Study area for terrestrial protected species
- Study area for aquatic protected species
- Proposed Erskine to Devol Moor route
- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New Access
- New Access (Stone)
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position
- GCN Pond

Tree with Bat Roost Potential (BRP)

- BRP Low
- BRP High
- Bat area

Otter field sign

- Spraint

Reptile field sign

- Refugia potential

Map scale 1:8,000 @ A3

CB:MN EB:Nicholson_M LUC FIG08-02-02_7058_Ecology_ProtectedSpecies_A3L 26/04/2020
Source:

a b c d e f g h

SP ENERGY NETWORKS

Erskine to Devol Moor
for SPEN

LUC

Figure 8.2.2g: Protected Species Survey Results

- Study area for terrestrial protected species
- Study area for aquatic protected species
- Proposed Erskine to Devol Moor route
- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New Access
- Existing Access
- Working Area
- Proposed Stone Laydown Area
- Pulling Position
- GCN Pond

Tree with Bat Roost Potential (BRP)

- BRP Low
- BRP Moderate
- BRP High
- Bat area

Otter field sign

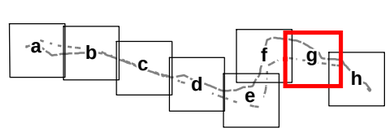
- Spraint

Other species field sign

- Fox

Map scale 1:8,000 @ A3

0 0.5 1 km



SP ENERGY NETWORKS

CB:MN EB:Nicholson_M LUC FIG08-02-02_7058_Ecology_ProtectedSpecies_A3L 26/04/2020
Source:

Erskine to Devol Moor
for SPEN

LUC

Figure 8.2.2h: Protected Species Survey Results

- Study area for terrestrial protected species
- Study area for aquatic protected species
- Proposed Erskine to Devol Moor route
- New 132kV OHL (wood pole)
- Existing 132kV OHL (towers to be removed)
- New Access
- New Access (Stone)
- Existing Access
- Construction Compound
- Working Area
- Proposed Stone Laydown Area
- Pulling Position

Structure with Bat Roost Potential (BRP)

- BRP Low

Tree with Bat Roost Potential (BRP)

- BRP Low
- BRP High
- Bat area

Other species field sign

- Brown hare

0 0.5 1 km

Map scale 1:8,000 @ A3

CB:MN EB:Nicholson_M LUC FIG08-02-02_7058_Ecology_ProtectedSpecies_A3L 26/04/2020
Source:

a b c d e f g h

SP ENERGY NETWORKS

Appendix B

Site Photography

Photograph 1: An example of a tree with high BRP (to be retained)

Photograph 2: A derelict building with moderate BRP (to be retained)

Photograph 3: An example of fresh otter spraint, recorded on the Dargavel Burn

Photograph 4: An otter resting site, a couch, identified beneath a bridge.

Photograph 5: An entrance of the identified main badger sett

Appendix C

CONFIDENTIAL Badger Survey Findings

Appendix D

Great Crested Newt HSI Calculations

Waterbody No.	OS National Grid Ref	Factor	Notes	Score	HSI Result
1	NS 35275 71717	Location	unsuitable	0.01	Poor (0.25)
		Pond Area	>2000	0.8	
		Pond Permanence	Never dries	0.9	
		Water Quality	Moderate	0.67	
		Shoreline Shade	90%	0.4	
		Waterfowl	major	0.01	
		Fish	minor	0.33	
		Other Ponds	1	0.44	
		Terrestrial Habitat	Good	1	
		Macrophyte Cover	10%	0.4	
2	NS 37233 71248	Location	unsuitable	0.01	Below Average (0.57)
		Pond Area	2000	0.8	
		Pond Permanence	Never dries	0.9	
		Water Quality	Good	1	
		Shoreline Shade	0%	1	
		Waterfowl	minor	0.67	
		Fish	absent	1	
		Other Ponds	7	0.88	
		Terrestrial Habitat	Good	1	
		Macrophyte Cover	90%	0.9	
3	NS 40240 71225	Location	unsuitable	0.01	Below Average (0.56)
		Pond Area	400	0.8	
		Pond Permanence	never dries	0.9	
		Water Quality	Good	1	
		Shoreline Shade	10%	1	
		Waterfowl	minor	0.67	
		Fish	absent	1	
		Other Ponds	5	0.76	
		Terrestrial Habitat	Good	1	

Waterbody No.	OS National Grid Ref	Factor	Notes	Score	HSI Result
		Macrophyte Cover	50%	0.8	
4	NS 40512 72126	Location	unsuitable	0.01	Poor (0.38)
		Pond Area	1390	0.89	
		Pond Permanence	dries annually	0.1	
		Water Quality	Moderate	0.67	
		Shoreline Shade	0%	1	
		Waterfowl	minor	0.67	
		Fish	absent	1	
		Other Ponds	6	0.82	
		Terrestrial Habitat	Moderate	0.67	
		Macrophyte Cover	0%	0.3	
5	NS 41012 71972	Location	unsuitable	0.01	Below Average (0.54)
		Pond Area	775	1	
		Pond Permanence	never dries	0.9	
		Water Quality	Moderate	0.67	
		Shoreline Shade	30%	1	
		Waterfowl	minor	0.67	
		Fish	possible	0.67	
		Other Ponds	9	0.94	
		Terrestrial Habitat	Good	1	
		Macrophyte Cover	60%	0.9	
6	NS 43132 71973	Location	unsuitable	0.01	Poor (0.42)
		Pond Area	672	1	
		Pond Permanence	Rarely dries	1	
		Water Quality	Poor	0.33	
		Shoreline Shade	0%	1	
		Waterfowl	minor	0.67	
		Fish	absent	1	
		Other Ponds	4	0.68	

Waterbody No.	OS National Grid Ref	Factor	Notes	Score	HSI Result
		Terrestrial Habitat	Poor	0.33	
		Macrophyte Cover	5%	0.35	

[i] Survey guidance is available at www.cieem.net/sources-of-survey-methods-sosm- and appraisal guidance is available at www.cieem.net/guidance-on-preliimnary-ecological-appraisal-gpea-

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[vii] Colins, J. (ed.) (2016). Bat Surveys for Professional Ecologists – Good Practice Guidelines, 3rd Edition. The Bat Conservation Trust, London

[viii] Scottish Natural Heritage (2016). *Protected Species Advice for Developers: Otters.* Available at https://www.nature.scot/sites/default/files/2019-10/Species%20Planning%20Advice%20-%20otter.pdf

[ix] SNH. *Protected Species Advice for Developers: Water Vole.* Available at https://www.nature.scot/sites/default/files/2018-09/Species%20Planning%20Advice%20-%20water%20vole.pdf.

[x] SNH. *Protected Species advice for Developers: Badger.* Available at https://www.nature.scot/sites/default/files/2018-09/Species%20Planning%20Advice%20-%20Badger_0.pdf.

[xi] Oldham *et al.* (2000). Great Crested Newt – a Habitat Suitability Index