

Environmental Impact Assessment

Sandy Knowe Wind Farm Extension

Technical Appendix 6-3: Protected Species
Surveys

ERG UK Holding Ltd.



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Contents

1	Introduction	1
1.1	Terms of reference	1
1.2	Objectives	1
2	Methodology	2
2.1	Desk study	2
2.2	Protected Species Survey	2
2.2.1	Bat	2
2.2.2	Otter	3
2.2.3	Water Vole	3
2.2.4	Red Squirrel	3
2.2.5	Badger	3
2.3	Limitations	3
3	Results	5
3.1	Desk study	5
3.1.1	Species Records	5
3.1.2	Protected species	6
4	References	9
	Appendix A: Photos	10

1 Introduction

1.1 Terms of reference

Protected Species survey were undertaken as per published guidance (see References) during August 2020, August-September 2021 and in December 2021. The 2020 survey comprised the western extension and the northern extension was surveyed in 2021 as this area was then incorporated into the Proposed Development Footprint.

The Proposed Development is approximately 9km west of Sanquhar and 1km southwest of Cumnock, Dumfries and Galloway (central grid reference NS 68721 11100). (Volume 3, Figure 6-4) and lies adjacent to the Sandy Knowe Wind Farm which was consented in July 2020 and is currently under construction.

the Applicant commissioned the surveys to establish the non-avian ecological baseline condition as summarised in this Technical Appendix (TA). It should be read in conjunction with the following technical appendices:

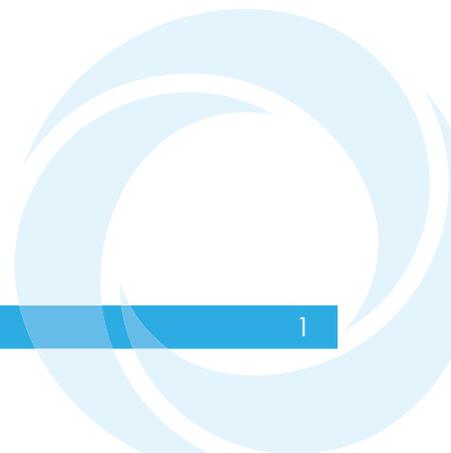
- Appendix 6-1: Extension Extended Phase 1 Survey;
- Appendix 6-2: National Vegetation Classification Survey;
- Appendix 6-4: Bat Surveys;
- Appendix 6-5: Fish Habitat Survey;
- Appendix 6-6: Aquatic Surveys; and
- Appendix 6-7: Confidential Badger annex.

This TA is associated with an Environmental Impact Assessment Report and as such, does not comprise an assessment of results, but information only.

1.2 Objectives

The principal objectives of this report are:

- Undertake a desk study to ascertain if the proposal is likely to affect any protected area and to assess protected species data for the area; and
- Undertake protected species surveys to confirm presence within the Study Area to determine the potential of these areas to support protected species.



2 Methodology

2.1 Desk study

South West Scotland Environmental Information Centre (SWSEIC) was contacted for protected species information within 4km (up to 10km for bats). This information is replicated in the Extended Phase 1 but is replicated here for ease.

2.2 Protected Species Survey

All field signs were geo-referenced with a handheld global positioning system (GPS) device and notes were taken regarding findings. The protected species survey was completed alongside the Extended Phase 1 habitat survey during August 2020 and August-September 2021 as shown on Figure 6-2: Extended Phase 1 Survey.

Target species were considered to be otter *Lutra lutra*, water vole *Arvicola amphibius*, red squirrel *Sciurus vulgaris* and badger *Meles meles*. Bat roost potential within trees and/or buildings was noted. The 2020 survey comprised the western extension and the northern extension was surveyed in 2021 as this area was then incorporated into the Proposed Development Footprint. A temporary construction compound/permanent battery storage area plus a 250m buffer was also surveyed in 2021. Whilst survey of the full Proposed Development Footprint did not occur all areas of proposed infrastructure plus 250m are covered by the aforementioned areas (Figure 6-4). The Study Area was defined as the new infrastructure plus the following buffers as per guidance detailed sections 2.2.1 – 2.2.5 below, or commonly used distances, as follows:

- Otter – 200m;
- Water vole -30m;
- Red squirrel – 50m;
- Badger – 30m; and
- Bat roost potential (within trees/buildings)- 30m.

2.2.1 Bat

All bat species found in Scotland are classed as European Protected Species (EPS). They receive full protection under the Conservation of Habitats and Species Regulations, 2010.

In accordance with NatureScot (NS) 2019 guidance static recording devices were deployed at five locations over three visits in May, July, and August 2020 on the western extension (consisting of turbines T25-28 inclusive plus associated infrastructure). The five locations corresponded to an early iteration of the wind farm design; however, as the design advanced the layout changed and detector 5 was not associated with any turbine in the final design of the Proposed Development. At this point in the design cycle four turbines were proposed and the northern extension did not form part of the Proposed Development. The northern extension (consisting of Turbines T29 and T30 inclusive plus associated infrastructure) was then added to the design and surveys were repeated for both the western and northern extensions in 2021. Static bat detectors were deployed at six locations over two visits in May, July 2021. Full spectrum bat detectors (Wildlife Acoustics Song Meter Mini Bats) were used in 2021 and Wildlife

Acoustics Song Meter SM2+ detectors with SMx-II weatherproof acoustic microphones in 2020. See Appendix 6-4 Bat Surveys for further information.

2.2.2 Otter

Otter is a European protected species under the Conservation of Habitats and Species Regulations, 2010.

Waterways within the Study Area were surveyed, which included a 200m buffer of proposed infrastructure. Survey methods followed standard methodologies (Purseglove, 1995; Chanin, 2003; Bang and Dahlstrøm, 2006; Muir and Morris, 2013). Any field signs observed were to be recorded and mapped and standard key parameters, including weather conditions, water levels and habitat suitability noted.

2.2.3 Water Vole

In Scotland water vole places of shelter or protection are protected under the Wildlife & Countryside Act 1981 (as amended).

Presence/absence level surveys were followed as in the 3rd Edition of the Water Vole Conservation Handbook (Strachan, 2011). The survey season for water voles is generally between April and September. The water vole survey was carried out in conjunction with the other surveys.

The survey comprised a thorough search of a strip approximately 10m metres wide on each bank of ditches within 30m of proposed infrastructure.

2.2.4 Red Squirrel

Red squirrels and their dreys (resting places) receive full protection under Schedules 5 and 6 of the Wildlife and Countryside Act 1981 (as amended).

Visual surveys for dreys and dens were carried out, where accessible, within the Study Area which included a 50m buffer of proposed infrastructure within commercial forestry and within broad-leaved woodland.

2.2.5 Badger

Badgers and their setts are fully protected under the Protection of Badgers Act, 1992.

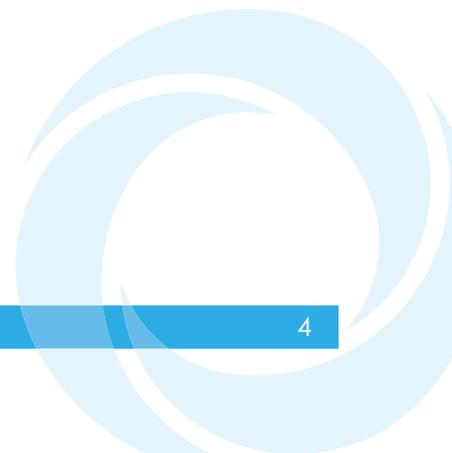
The badger survey was conducted on the same day as the other protected mammal and habitat surveys and entailed searching for signs indicating presence/absence of badgers (e.g., setts and latrines) as per Harris *et. al.* 1989.

Badger survey results are not detailed in this report but within Technical Appendix 6-7 Confidential Annex.

2.3 Limitations

It was not possible to access the entire length of burns passing through the Study Area as it was not safe to do so. The Polhote burn runs through a gorge from the centre of the northern extension and where possible to view using binoculars, this method of survey was used.

Nor was it possible to access all lengths of burns passing through commercial forestry as much of it was too dense to access safely. This habitat was largely observed at the edge of discrete blocks. All other burns were fully accessed on foot.



3 Results

3.1 Desk study

3.1.1 Species Records

Table 1 comprises European protected species and species of conservation interest within 4km of the centre of the Proposed Development and up to 10km for bat species from the last ten years. Species of conservation interest are defined as those on the Scottish Biodiversity List. Distances are approximate, and each species may be associated with multiple records within the data as provided by the SWSEIC.

Some locations were provided by SWSEIC as only to a 1km or 2km square resolution (i.e., the record occurred within that kilometre square or tetrad, and many were site centroids or estimated locations. As a result, they may not be recorded at the exact location where the species was seen.

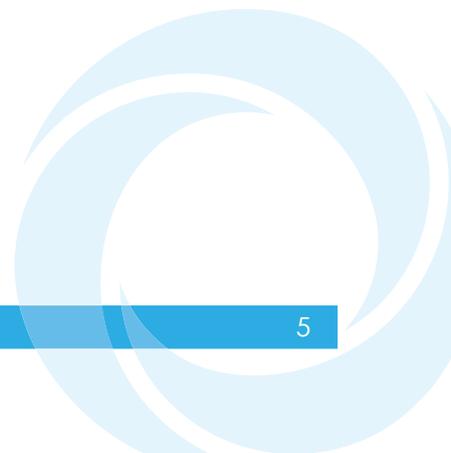


Table 1: South West Scotland Environmental Information Centre records from the last ten years within 4km of the Proposed Development and up to 10km for bat species

Species	Summary of records
Juniper <i>Juniperus communis</i>	4 records, the closest adjacent within Rigg/Librymoor Plantation, 2011, adjacent to the Proposed Development
Weevil beetle <i>Thryogenes nereis</i>	1 record, the closest adjacent within Rigg/Librymoor Plantation, 2017, adjacent the Proposed Development
Small heath (butterfly) <i>Coenonympha pamphilus</i>	1 record, 2.4km southeast, 2017
Garden tiger (moth) <i>Arctia caja</i>	1 record, the closest adjacent within Rigg/Librymoor Plantation, 2012, adjacent the Proposed Development
Shaded broad-bar (moth) <i>Scotopteryx chenopodiata</i>	1 record, 400m east, 2016
Common toad <i>Bufo bufo</i>	1 record, the closest adjacent within Rigg/Librymoor Plantation, 2017, adjacent the Proposed Development
Pipistrelle Bat species <i>Pipistrellus sp.</i>	1 record, 3.9km southeast, 2016
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	1 record, 3.9km southeast, 2016
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	1 record, 3.9km southeast, 2016 1 record, 2.5km northeast, 2016
Whiskered/Brandt's Bat <i>Myotis mystacinus/brandtii</i>	1 record, 3.9km southeast, 2016
Natterer's Bat <i>Myotis nattereri</i>	1 record, 3.9km southeast, 2016
Lesser Noctule <i>Nyctalus leisleri</i>	4 records, 5km southwest, 2016 1 record, 5.2km east, 2016
Mountain hare <i>Lepus timidus</i>	1 record, 2.6km southeast, 2017

No records were returned from within the Proposed Development, with the closest records relating to common toad and juniper located adjacent within Rigg/Librymoor Plantation to the east.

3.1.2 Protected species

Amphibians and Reptiles

A common toad record is noted from the desk study as adjacent the Proposed Development.

No suitable waterbodies are present, which could be used by great crested newt *Triturus cristatus* within 500m as identified during the Extended Phase 1 survey (proposed infrastructure plus 250m) and from inspection of aerial mapping of the area 250m – 500m from proposed infrastructure.

No reptiles or signs of reptiles were recorded during the survey nor returned from the desk study. Despite this, it is likely there could be reptiles present given open grassland and bog habitat.

Invertebrates

There were two incidental records of butterflies during the survey: meadow brown *Maniola jurtina* and red admiral *Vanessa atalanta*. Two invertebrate species are noted in the desk study adjacent to the Proposed Development within Rigg/Librymoor Plantation (east of the northern extension), as follows.

- Weevil beetle *Thryogenes nereis* (1 record from 2017); and
- Garden tiger (moth) *Arctia caja* (1 record from 2012).

Otter and Water vole

Otter signs were recorded within 200m of the compound area along the Polbroc Burn in the eastern part of the northern extension. Two resting places were identified, each containing a single fresh spraint. These are otter couches and do not contain any features typical of a breeding holt (see Appendix A & Figure 6-4).

No signs of water vole were seen during the survey.

No records within the Proposed Development or zone of influence were noted in the desk study.

Badger

Information on badger is regarded as confidential and therefore included in Technical Appendix 6-7 Confidential Badger Annex.

No records within the Proposed Development or zone of influence were noted in the desk study.

Bats

The Proposed Development is considered to have limited value for roosting bats as trees were too young or small to contain cavities and no structures which could support bat roosts were present. No trees with bat roost potential; structures were recorded within the survey area or within 30m of proposed infrastructure. Whiskered/Brandt's and Leisler's bats were noted in the desk study but are not considered within the zone of influence because of their distance from the Proposed Development.

There is potential for bats to forage through the Study Area along the burns and within broad-leaved woodland to the north and plantation which borders sections of the Proposed Development. Baseline conditions are discussed in more detail within Technical Appendix 6-4 Bat Surveys.

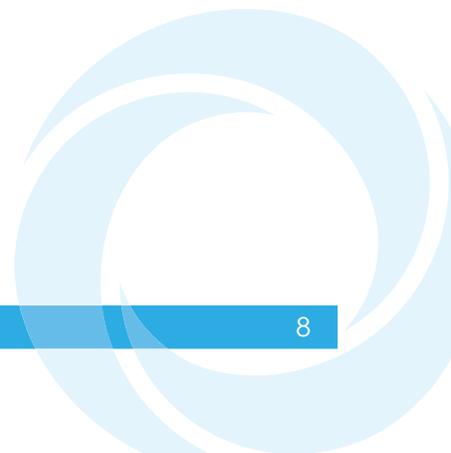
Fish

A fish habitat survey was undertaken in November 2020 on the western extension up 250m from proposed infrastructure where accessible and safe to survey. This survey was not carried out on the northern extension as recent survey data (from 2018) from the adjacent Sandy Knowe Wind Farm was used. The SKWF survey was carried out by the Nith District Salmon Fishery Board and confirmed salmonids as present in the area, but that access is limited by natural physical features (NDSFB, 2018). The November 2020 survey found that any salmonids present were likely to be limited to resident brown trout *Salmo trutta* within small sections of habitat in the northern part of the Proposed Development area. Further south, run-cascade sequences and waterfalls impeded

access upstream into the Proposed Development (see Technical Appendix 6-5 Fish Surveys).

After the November 2020 survey NDSFB recommended electrofishing and aquatic invertebrate monitoring to be undertaken on the lower Polhote, downstream of the November 2020 survey extents, approximately 550-800 from the Proposed Development boundary. This survey found 'good to excellent densities of trout and that the diversity and quality of the aquatic invertebrate communities indicated high water quality in the watercourses. Technical Appendix 6-6: Aquatic Surveys should be consulted for further information.

No records within the Proposed Development or zone of influence were noted in the desk study.



4 References

- Bang P & Dahlstrøm P (2006) *Animal Tracks and Signs*. Oxford University Press, Abingdon.
- Chanin P (2003) *Monitoring the Otter Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough.
- Harris, S., Cresswell, P. & Jeffries, D. (1989). *Surveying Badgers*. The Mammal society, London.
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- Purseglove (1995). *The new rivers and wildlife handbook*, RSPB, NRA and RSNC, the Royal Society for the Protection Of birds, Sandy, 1994.
- Scottish Natural Heritage (2008) – *Scottish Wildlife Series: Otters and Development*. SNH. Inverness.
- Scottish Natural Heritage (SNH). 2019. *Bats and onshore wind turbines - survey, assessment and mitigation*.
- Strachan, R. M. (2011). *Water vole conservation handbook 3rd Edition*.

Appendix A: Photos

The Polneul burn had a flow up to 25cm and was pooling in places.



The Polneur burn was dry at the time of the survey.



Fresh otter sprain in resting place along Polbroc Burn (Grid reference NS 71165 10000).



Resting place within overhanging bank where otter spraint was found along Polbruc Burn (Grid reference NS 71165 10000).



Second otter spraint recorded along Polbruc Burn (Grid reference: NS 70987 09865).



Resting place underneath mossy cliff overhang where second spraint was found along Polbruc Burn (NS 70987 09865).

