

Abergelli Power Project Breeding Bird CONFIRMATION Survey

Abergelli Power Limited
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1. Breeding Bird Survey Report

1.1 Introduction

- 1.1.1 AECOM was commissioned to undertake a suite of ecological survey work to inform the Abergelli Power Project (the “Project”), and support the Environmental Statement (ES).
- 1.1.2 The Project Site is located near to the village of Felindre, Swansea, as shown in Figure 1, and the central grid reference for the Project Site is SN65280143. A full description of the development is provided in ES Chapter 3 (Project and Site Description).
- 1.1.3 The Preliminary Ecological Appraisal Report (Appendix 8.1) identified that surveys for breeding birds were required at the Project Site.
- 1.1.4 This baseline report describes the status of breeding birds within the breeding bird survey area and makes initial indications of potential effects and outlines initial recommendations for further surveys, mitigation and enhancement.
- 1.1.5 The breeding bird survey area encompasses all suitable and accessible areas of woodland, hedgerows and scrub within proximity of and within the Project Site Boundary, as shown on Figure 1.
- 1.1.6 Additional surveys were undertaken after the submission of the ES in May 2018, therefore this report is provided as confirmation to the Breeding Birds Report, ES Appendix 8.6.
- 1.1.7 Surveys have been undertaken in 2017 and 2018. Surveys undertaken in 2017 were focussed on a larger area that encompassed the Project Site Boundary due to the uncertainty of the Project Site Boundary at the time of survey. Surveys undertaken in 2018 were focused within the Project Site Boundary only. Previous surveys have been undertaken by BSG Ecology are provided in the ES Appendix 8.16.

a) Objectives of the Study

- 1.1.8 The objectives of this study were:
- To identify any designated nature conservation sites within or in the vicinity of the Project Site boundary that have the potential to support notable breeding bird species or assemblages;
 - To identify any known records of breeding birds in the vicinity of the Project Site boundary;
 - To record and map evidence of breeding bird activity;
 - To make an initial ecological assessment of the value of the Project Site to breeding birds;
 - To highlight any initial potential ecological constraints related to breeding birds;
 - To outline further survey work that may be required; and,

- To make initial suggestions for mitigation, compensation and enhancement of the natural features identified within the Project Site with respect to the breeding bird assemblage.

1.2 Legislation

1.2.1 There are several different acts of legislation and regulations which refer to the protection of wildlife. Legislation with particular relevance to birds is outlined below.

1.2.2 This is a brief summary of the legislation and is not to be regarded as a definitive legal opinion. When dealing with individual cases, the client is advised to consult the full texts of the relevant legislation and obtain further legal advice.

b) Statutory Legislation

1.2.3 Key legislation for birds in the UK includes:

- Council Directive 79/409/EEC on the conservation of wild birds (the EC Birds Directive); and,
- Wildlife and Countryside Act 1981 (as amended) [WCA].

1.2.4 Annex 1 of the EC Birds Directive lists rare and vulnerable species of regularly occurring or migratory wild birds that are subject to special conservation measures. The Directive also provides for the designation of SPAs for the protection of these species, which form part of the Natura 2000 network of sites protected by European wildlife legislation.

1.2.5 Part 1 of the WCA sets out how the provisions of the Convention on the Conservation of European Wildlife and Natural Habitats (the 'Bern Convention'), the EC Birds Directive and the EC Habitats Directive are implemented in Great Britain. Under Part 1, Section 1 of the WCA it is an offence to:

- Kill, injure or take any wild bird intentionally;
- Take, damage or destroy the nest of any wild bird while that nest is in use or being built; and,
- Take or destroy the egg(s) of any wild bird.

1.2.6 Schedule 1 of the WCA lists a number of species which, in addition to the provisions listed above, are protected by special penalties at all times, including against disturbance when breeding.

- 1.2.7 The WCA requires the prosecuting authority to prove that an offence was intentional, however the Countryside and Rights of Way (CROW) Act 2000 strengthens the provisions of the WCA by introducing an additional offence of “reckless” disturbance, which means that ignorance of the presence of a protected species cannot be used as a reliable defence should a breach of the WCA be committed. The Natural Environment and Rural Communities (NERC) Act 2006 strengthens the WCA further with respect to the protection of the nests of certain birds listed on Schedule Z1A, even when they are not in use. The NERC Act also offers additional protection to birds released into the wild as part of a repopulation programme and provides minor amendments to the WCA with respect to captive birds.
- 1.2.8 The Environment (Wales) Act 2016 strengthens the duty previously applied under the Natural Environment and Rural Communities Act (2006) placed on planning authorities to have due regard to biodiversity when making decisions. A number of species of bird are listed on the Environment (Wales) Act 2016 Section 7 Priority Species. These are the species found in Wales which were identified as requiring action under the UK Biodiversity Action Plan (BAP) and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework. As such, it is targeted for measures necessary to support its conservation status in the UK.

c) Non Statutory Policy

- 1.2.9 The RSPB (2009) and Eaton *et al.* (2009) have published lists of Birds of Conservation Concern (BoCC) which are regularly updated to reflect recent trends in bird populations. Red List species are those whose breeding population or range is rapidly declining (50% or more in the last 25 years), recently or historically, and those of global conservation concern. Amber List species are those whose breeding population is in moderate decline (25 – 49% in the last 25 years), rare breeders, internationally important and localised species and those of unfavourable conservation status in Europe.
- 1.2.10 These lists confer no legal status; however they are useful when assessing the significance of predicted impacts and determining the level of mitigation that may be required when birds are affected by development or any other activity. Furthermore, inclusion on the Red List is a factor in determining the species which may be added to the list of species of principal importance under the Environment (Wales) Act.

1.3 Quality Assurance

- 1.3.1 This survey and subsequent report was undertaken in line with AECOM's Integrated Management System (IMS). Our IMS places great emphasis on professionalism, technical excellence, quality, environmental and Health and Safety management. All staff members are committed to establishing and maintaining our certification to the international standards BS EN ISO 9001:2008 and 14001:2004 and BS OHSAS 18001:2007. In addition, our IMS requires careful selection and monitoring of the performance of all sub-consultants and contractors.

1.3.2 All AECOM Ecologists who worked on this project are members of (at the appropriate level) the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow their code of professional conduct (CIEEM, 2017) when undertaking ecological work.

1.4 Methodology

a) Desk Study

1.4.1 The objective of the desk study is to review the existing information available in the public domain concerning species and habitats to identify the following:

- Internationally and nationally designated sites for birds, up to 2 km from the Project Site using the Multi Agency Geographic Information for the Countryside (MAGIC) website (NE, 2017);
- Bird records and records of locally designated sites for breeding birds up to 2 km from the Project Site, using the South East Wales Biodiversity Records Centre (SEWBRc);
- Bird species within the Section 7 list of Principal Importance for Conservation of Biological Diversity in Wales;
- Features of ecological interest surrounding the Project Site, nearby areas of ecological interest and features connecting these habitats (hedgerows, watercourses, railway lines) using aerial photographs and Ordnance Survey (OS) maps.

1.4.2 The reports of previous surveys undertaken by BSG Ecology were provided by the client and were reviewed (ES Appendix 8.16).

b) Breeding Bird Survey

1.4.3 Surveys were completed by personnel with experience of the likely species assemblage for this geography and habitat type. Survey dates, personnel and weather conditions are shown in Table 1.1.

1.4.4 Species were identified by sight or sound and details of behaviour and activity was recorded. A range of optical equipment including binoculars and telescope were used as required and to minimise disturbance to potentially breeding species. A species list of common passerine birds was compiled for the site; details of activity and behaviour were made. The results of breeding bird surveys were analysed to assess the status of the birds on site as one of the following:

- Non-breeding – Flyover or species observed within unsuitable breeding habitat;
- Possible breeding – Species observed in breeding season in suitable nesting habitat;
- Probable breeding – Pair observed in suitable nesting habitat in breeding season, territorial behaviour observed on at least two occasions, courtship and display observed, observed visiting probable nest site, agitated behaviour or anxiety calls from adults or nest building observed; or
- Confirmed breeding – Used nest or eggshells, distraction display/injury feigning observed, recently fledged young, adults on nest, adult carrying faecal sac or food, nest containing eggs or nest with young seen/heard.

i. Breeding Bird Surveys 2017

- 1.4.5 The Project Site was visited on two occasions to identify the presence and status of breeding birds within the Project Site. Surveys were undertaken paying due regard to guidance provided in Breeding Bird Survey (BBS) methodology. All parts of the Project Site were visited on foot to within 50 m where visibility extended or closer where visibility was needed for example in woodlands or behind hedgerows.
- 1.4.6 Surveys were carried out on days with little or no wind, rain or mist in order to maximise the potential for detection of birds and to avoid the possibility of bird activity being suppressed by inclement weather conditions.

ii. Breeding Bird Surveys 2018

- 1.4.7 Four breeding bird surveys were undertaken between April and May 2018. Surveys were undertaken paying due regard to guidance provided in BBS methodology.
- 1.4.8 A survey transect (located in Figure 1) was designed to encompass habitat within the Project Site boundary suitable for supporting breeding birds such as hedgerows and woodland.
- 1.4.9 The transect was walked at dusk and dawn on the same or consecutive day in April and May. The direction of the transect was swapped for each survey to help reduce bias. The dusk survey commenced two hours before sunset and finished at sunset. The dawn survey commenced fifteen minutes before sunrise and continued for two hours. All birds heard or seen whilst walking the transect were recorded including species, location and activity.
- 1.4.10 Surveys were carried out on days with little or no wind, rain or mist in order to maximise the potential for detection of birds and to avoid the possibility of bird activity being suppressed by inclement weather conditions.
- 1.4.11 An additional survey was undertaken in late February 2018 aimed at detecting the presence of displaying goshawk *Accipiter gentilis*. This survey paid due regard to the guidance in Raptors: a field guide for surveys and monitoring, (Hardey et al, 2013). The survey consisted of a Vantage Point watch over the area of woodland within the Project Site boundary. Goshawk seek large undisturbed blocks of woodland in which to breed and therefore the survey area was selected accordingly. The survey period deviated from that in the guidance to reflect the likely earlier breeding recorded in South Wales compared to the reference surveys further north.

Table 1.1: Survey Dates, Times, Personnel and Weather Conditions

Survey date and times	Survey Personnel	Weather Conditions
17 May 2017 19.00 – 21.25	Kevin Webb CEcol	Clear with no rain, wind speed 12mph SW and temperature at start of survey 11 ⁰ C
18 May 2017	Kevin Webb CEcol	Clear with no rain, wind speed 8mph W

Survey date and times	Survey Personnel	Weather Conditions
04.55 – 11.05		and temperature at start of survey 10 ⁰ C
14 June 2017 17.25 – 22.40	Kevin Webb CEcol	Clear with no rain, wind speed 6mph S and temperature at start of survey 17 ⁰ C
15 June 2017 04.10 – 04.45*	Kevin Webb CEcol	Clear with no rain, wind speed 2mph SW and temperature at start of survey 14 ⁰ C
20 February 2018 06.40 – 09.20	Lucy Foster ACIEEM	Clear with no rain, wind speed 16mph N and temperature at start of survey 4 ⁰ C
11 April 2018 18.05-20.04	Lucy Foster ACIEEM Ursula Jones CIEEM	Dry, cloud 8/8, temp 10°C, wind F2
12 April 2018 06.00-07.55	Lucy Foster ACIEEM Ursula Jones CIEEM	Dry, cloud 2/8, temp 5°C, wind F1
10 May 2018 05.15-07.20	Lucy Foster ACIEEM Ursula Jones CIEEM	Dry, cloud 0/8, temp 4°C, wind F1
10 May 2018 18.50-20.49	Lucy Foster ACIEEM Ursula Jones CIEEM	Dry, cloud 3/8, temp 14°C, wind F2

* see Section 1.5: Limitations

1.5 Limitations

- 1.5.1 BBS methodology was not followed in its entirety; species and activity were recorded on a base map and species list and locations and behaviours recorded. This gave a broad assessment of species present, potential for breeding and potential ornithological constraints at the site. Territory mapping was not undertaken since the assemblage of birds recorded were relatively common and as such this would not add any value to the assessment of impacts in the ES.
- 1.5.2 It was not possible to access the access road leading to the Felindre Gas Compressor Station and National Grid 400 kV electrical substations due to the gate being locked between the hours of 16:00 and 08:00 (Figure 1). Habitats suitable for supporting breeding birds in this area are limited to trees and hedgerows, adjacent habitats include improved and semi-improved grassland and woodland. As such, the suite of species will be similar to those found elsewhere within the Project Site boundary and this is not considered to be a significant limitation.
- 1.5.3 The second survey visit on 14 June 2017 included an evening survey of the northern part of the Site followed by a dusk walkover of marshy grassland in the south of the Project Site looking for evidence of crepuscular species. The intention was to complete the survey of the remainder of the Project Site the next morning (15 June 2017) from dawn onwards but the survey was unable to be completed due to a persistent threat to surveyor safety.

- 1.5.4 In 2018 the survey was undertaken across the entire Project Site. In 2018 the transect was reduced to include only the areas which are within the Project Site boundary. The 2018 survey area is smaller than the 2017 survey area and as such the results have been reported separately to avoid over or under valuing of the Project Site in relation to breeding birds.
- 1.5.5 There is potential for some birds to be missed or to go unnoticed due to the nature of breeding bird surveys and possibility of birds not vocalising and/or being present in dense vegetation. A total of six surveys have been undertaken by AECOM. When combined with previous surveys and given the relatively simple nature of habitats it is considered that the BBS as described in this report provides an accurate assessment of the ornithological value of the Project Site to breeding birds.
- 1.5.6 There were no further limitations to this survey.

1.6 Baseline Environment

a) Desk Study Results

- 1.6.1 The designated habitats, sites and features within proximity to the Project Site that are relevant to breeding birds are listed in Table 1.2 below.

Table 1.2: Desk Study Results

Designation / Feature	Description
Nationally and Internationally Designated Sites relevant to breeding birds within 2 km	<p>Nant Y Crimp Site of Special Scientific Interest (SSSI)</p> <p>Distance and Direction: Approximately 1.3 km west</p> <p>Description: Nant y Crimp is of special interest for its wet pastures, species-rich neutral grasslands and semi-natural woodland as well as associated scrub, which are host to several uncommon plant species.</p> <p>Although not mentioned on the citation the site is known to support breeding lapwing <i>Vanellus vanellus</i>.</p>
Locally Designated Sites within 2 km relevant to breeding birds	<p>Felindre Grasslands Site of Nature Conservation Interest (SINC)</p> <p>Distance and Direction: Adjacent to the west of the Project Site boundary.</p> <p>Description: Native wet woodland, lowland mixed deciduous woodland, structurally-diverse and species-rich gorse scrub, and purple moor-grass and rush pasture; and a number of Section 7 listed invertebrate and bird species, and the Schedule 1 listed birds barn owl <i>Tyto alba</i> and Northern goshawk.</p> <p>Rhos Fawr SINC</p> <p>Distance and Direction: Adjacent to the northern Project Site boundary</p> <p>Description: Supporting the habitats: woodland containing ancient woodland indicator species, structurally-diverse and species-rich</p>

Designation / Feature	Description
	<p>scrub, species-rich neutral grassland, purple moor-grass and rush pasture, and watercourse with exposure/erosion features; and a number of Section 7 listed bird species.</p> <p>Rhyd-Y-Pandy Valley and Grasslands SINC Distance and Direction: Approximately 50 m east Description: Supporting the habitats: native wet woodland, woodland containing ancient woodland indicator species, gorse stands, lowland meadow, species-rich neutral grassland, structurally-diverse and species-rich scrub, purple moor-grass and rush pasture, reedbeds, and watercourse with exposure/erosion features; and a number of Section 7 listed bird species, and the Schedule 1 listed birds barn owl and red kite <i>Milvus milvus</i>.</p> <p>Waun Garn Wen SINC Distance and Direction: Approximately 200 m west Description: Supporting the habitats: native wet woodland, structurally-diverse and species-rich scrub, purple moor-grass and rush pasture, and watercourse with exposure/erosion features; and a number of Section 7 listed bird species.</p> <p>Pant Lasau SINC Distance and Direction: Approximately 250 m south Description: Supporting the habitats: native wet woodland, lowland mixed deciduous woodland, gorse stands, lowland fen, structurally-diverse and species-rich scrub, purple moor-grass and rush pasture, and watercourse with exposure/erosion features; and a number of Section 7 listed bird species.</p> <p>Cefn Forest Stream SINC Distance and Direction: Approximately 300 m south west Description: Supporting the habitats: woodland containing ancient woodland indicator species, upland mixed ash woodland, native wet woodland, lowland mixed deciduous woodland, lowland meadow, species-rich neutral grassland, structurally-diverse and species-rich scrub, degraded lowland heath, lowland fen, purple moor-grass and rush pasture, ponds, and watercourse with exposure/erosion features; and a number of Section 7 listed bird species, and the Schedule 1 listed bird barn owl.</p> <p>Lower Lliw Reservoir SINC Distance and Direction: Approximately 700 m north Description: Supporting the habitats: woodland containing ancient woodland indicator species, gorse stands, species-rich bracken,</p>

Designation / Feature	Description
	<p>structurally-diverse and species-rich scrub, purple moor-grass and rush pasture, and watercourse with exposure/erosion features; and a number of Section 7 listed invertebrate and bird species, and the Schedule 1 listed birds kingfisher <i>Alcedo atthis</i>, merlin <i>Falco columbarius</i> and red kite.</p> <p>Cefn Forest Stream SINC</p> <p>Distance and Direction: Approximately 300m south west</p> <p>Description: Supporting the habitats: woodland containing ancient woodland indicator species, upland mixed ash woodland, native wet woodland, lowland mixed deciduous woodland, lowland meadow, species-rich neutral grassland, structurally-diverse and species-rich scrub, degraded lowland heath, lowland fen, purple moor-grass and rush pasture, ponds, and watercourse with exposure/erosion features; and a number of Section 7 listed bird species, and the Schedule 1 listed bird barn owl.</p>
Bird records from the last 10 years within 2 km	<p>The following bird species have been recorded within 2 km of the Project Site within the last ten years: Lesser redpoll <i>Acanthis cabaret</i>, Northern goshawk, skylark <i>Alauda arvensis</i>, kingfisher, tree pipit <i>Anthus trivialis</i>, little-ringed plover <i>Charadrius dubius</i>, ringed plover <i>Charadrius hiaticula</i>, black-headed gull <i>Chroicocephalus ridibundus</i>, cuckoo <i>Cuculus canorus</i>, lesser spotted woodpecker <i>Dendrocopos minor</i>, yellowhammer <i>Emberiza citronella</i>, reed bunting <i>Emberiza schoeniclus</i>, merlin, peregrine <i>Falco peregrinus</i>, hobby, kestrel <i>Falco tinnunculus</i>, pied flycatcher <i>Ficedula hypoleuca</i>, linnet <i>Linaria cannabina</i>, grasshopper warbler <i>Locustella naevia</i>, common crossbill <i>Loxia curvirostra</i>, common scoter <i>Melanitta nigra</i>, red kite, spotted flycatcher <i>Muscicapa striata</i>, curlew <i>Numenius arquata</i>, osprey <i>Pandion haliaetus</i>, house sparrow <i>Passer domesticus</i>, wood warbler <i>Phylloscopus sibilatrix</i>, willow tit <i>Poecile montana</i>, marsh tit <i>Poecile palustris</i>, dunnoek <i>Prunella modularis</i>, bullfinch <i>Pyrrhula pyrrhula</i>, starling <i>Sturnus vulgaris</i>, redwing <i>Turdus iliacus</i>, song thrush <i>Turdus philomelos</i>, fieldfare <i>Turdus pilaris</i>, barn owl and lapwing.</p>
Priority Species – Listed on The Environment Act (Wales) 2016 Section 7	<p>Fifty one species are listed on Section 7 of which nineteen are of potential relevance to the Project Site: tree pipit, lesser redpoll, linnet, cuckoo, lesser spotted woodpecker, yellowhammer, reed bunting, kestrel, pied flycatcher, grasshopper warbler, yellow wagtail <i>Motacilla flava</i>, spotted flycatcher, house sparrow, dunnoek, willow tit, marsh tit, bullfinch, skylark, wood warbler, turtle dove, <i>Streptopelia turtur</i>, starling, song thrush and lapwing.</p>
Surrounding Land Use	<p>The Project Site is located to the north of Junction 46 of the M4 motorway close to the village of Felindre, Swansea.</p> <p>The Project Site has agricultural fields to the east, south and north. Areas of woodland are located to the south, east and west of the Project Site. Areas of the National Grid Compound with</p>

Designation / Feature	Description
	associated roads and buildings are partially within and adjacent to the Project Site boundary. A water treatment works is located in the north west outside of the Project Site boundary.
Previous Surveys undertaken by BSG Ecology	<p>The client provided AECOM with the reports of previous surveys undertaken in 2014 by BSG Ecology within the Site (ES Appendix 8.16). The red line boundary included within these reports is different to the 2017 Project Site boundary.</p> <p>It was noted that the 2017 Project Site boundary is smaller than the red line boundary used by BSG Ecology in 2014. However, the current Project Site boundary is within the same area as the 2014 red line boundary provided to BSG Ecology and therefore the surveys undertaken would have captured the current Project Site area.</p> <p>The 2014 BSG Ecology Breeding Bird Survey Report identified 30 species of birds breeding within the Project Site and an additional 23 species using the Project Site or flying over. The surveys were undertaken on three dates between April and June under suitable weather conditions (ES Appendix 8.16).</p>

b) Breeding Bird Survey Results

- 1.6.2 A breeding bird survey was conducted at the Project Site on two occasions during May and June 2017, four occasions during April and May 2018, and one occasion in February 2018 aimed at identifying the presence of Northern goshawk. The results of the BBS are summarised in Table 1.3.
- 1.6.3 Birds were considered to be confirmed breeding if either direct evidence of nesting was found (active nest or adult bird carrying food or faecal pellet) or if males were observed displaying territorial behaviour (singing, calling or aggression) in suitable habitat for breeding on each visit. An assemblage of common birds typical of the habitats on the Project Site was recorded. One red kite was recorded during the survey in February 2018 soaring over woodland outside of the Project Site Boundary but otherwise there were no records of Annex 1 or Schedule 1 breeding species (including Northern goshawk).
- 1.6.4 Results have been split into 2017 and 2018 due to the variation in survey area. The results from 2018 are more representative of the actual impacts of the scheme as they were undertaken over a reduced survey area within the Project Site Boundary.

1.6.5 Out of a total of 45 species recorded only swift was definitely not breeding within the Project Site Boundary. Twelve species listed on Section 7 were recorded all of which may have been breeding within the Project Site Boundary or immediate surrounds: bullfinch, cuckoo, dunnock, house sparrow, lapwing, lesser redpoll, linnet, reed bunting, skylark, song thrush, starling and tree pipit. Ten species are also listed on the BoCC Red List: cuckoo, house sparrow, lapwing, lesser redpoll, linnet, mistle thrush, skylark, song thrush, starling and tree pipit. Eight further species were recorded which are listed on the BoCC Amber List: bullfinch, dunnock, meadow pipit, redstart, reed bunting, swift, tawny owl and willow warbler.

c) Incidental Records During Goshawk Survey

1.6.6 The following species were recorded during the goshawk survey around the vantage point :

- Robin;
- Dunnock;
- Blackbird;
- Song thrush;
- Starling;
- Carrion crow;
- Wood pigeon;
- Canada goose;
- Jay;
- Great tit;
- Bullfinch – pair;
- Herring gull;
- Green woodpecker;
- Magpie;
- Fieldfare;
- House sparrow;
- Chaffinch;
- Goldfinch;
- Jackdaw;
- Blue tit;
- Pied wagtail;
- Nuthatch;
- Red kite; and,
- Mistle thrush

Table 1.3: Summary of Birds and Behaviour Recorded during Breeding Bird Survey

Species	Survey						Summary 2017	Breeding Status 2017	Summary 2018	Breeding Status 2018	Species Designation
	Visit 1 (2017)	Visit 2 (2017)	Visit 4 (2018)	Visit 5 (2018)	Visit 6 (2018)	Visit 7 (2018)					
Barn swallow	4	7	0	0	0	6	Hunting throughout the Project Site on several visits, may breed in farm buildings.	Possible breeding	Hunting throughout the Site on final visit.	Possible breeding	N/A
Blackbird	9	9 (5 juv)	10	8	15	12	Up to seven pairs may have bred but breeding confirmed of at least two pairs.	Confirmed breeding	Up to eleven pairs probably breeding.	Probable breeding	N/A
Blackcap	12	17	1	1	1	0	Up to eight singing males recorded and fledged young recorded on second visit.	Confirmed breeding.	Recorded in woodland around substation.	Probable breeding	N/A
Bullfinch	3	6	0	0	0	0	Recently fledged young recorded on second visit.	Confirmed breeding	N/A	N/A	Section 7 BoCC Amber List
Blue tit	24	16 (inc. juv)	10	8	10	7	Common throughout woodland and mature hedgerows. Up to twelve pairs likely to have bred.	Confirmed breeding	Common throughout woodland and mature hedgerows. Up to five pairs likely to have bred.	N/A	N/A
Carrion crow	34	9	2	0	0	0	One active nest found on first visit and common throughout. Up to six pairs likely to breed.	Confirmed breeding	N/A	N/A	N/A
Chiff-chaff	15	10	4	10	2	1	Peak count of fifteen singing males on first visit indicative of likely number of pairs.	Probable breeding	Peak count of ten singing males on first visit indicative of likely number of pairs.	Probable breeding	N/A
Chaffinch	16	9	3	2	0	4	Up to sixteen singing/calling males recorded with four family parties on second visit. Likely to be up to twelve pairs breeding.	Confirmed breeding	Up to four singing/calling males recorded across the Site.	Probable breeding	N/A
Coal tit	0	0	2	2	0	2	N/A	N/A	Up to two pairs probably breeding.	Probable breeding	N/A
Collared dove	2	0	0	0	0	0	One pair observed on first visit only.	Possible breeding	N/A	N/A	N/A
Common buzzard	2	2	0	0	0	0	Pair soaring over Project Site on both visits likely to be breeding within Project Site or locally.	Probable breeding	N/A	N/A	N/A
Cuckoo	2	1	0	0	2	0	Male heard calling from close to substation on first visit and outside of Project Site further west	Possible breeding	Male heard calling around centre of the Project Site.	Possible breeding	Section 7 BoCC Red List
Dunnock	8	4	4	3	2	4	Common across the Project Site with up to eight pairs likely to breed	Probable breeding	Common across the Project Site with up to four pairs likely to breed	Probable breeding	Section 7 BoCC Amber List
Garden warbler	2	1	0	0	0	0	Two males singing from close to substation on first visit and one male in the same location on second visit.	Probable breeding	N/A	N/A	N/A
Goldcrest	4	5	1	1	0	1	Four singing males recorded first visit and fledged young seen in family party on second visit.	Confirmed breeding	One singing male recorded in south east of the Project Site	Probable breeding	N/A
Goldfinch	23	3	5	4	6	11	Up to six singing/calling males on	Probable	Up to four singing/calling	N/A	N/A

Species	Survey						Summary 2017	Breeding Status 2017	Summary 2018	Breeding Status 2018	Species Designation
	Visit 1 (2017)	Visit 2 (2017)	Visit 4 (2018)	Visit 5 (2018)	Visit 6 (2018)	Visit 7 (2018)					
							first visit and small feeding groups. Up to six pairs likely to have bred.	breeding	males, one pair and small feeding groups. Up to five pairs likely to have bred.		
Great spotted woodpecker	0	1	0	0	0	0	One flying over south of Project Site on visit two.	Possible breeding	N/A	N/A	N/A
Great tit	9	2	7	5	9	1	Up to five pairs likely to breed in woodland.	Probable breeding	Up to nine pairs likely to breed in woodland.	N/A	N/A
Green woodpecker	0	0	0	1	0	1	N/A	N/A	One pair likely to breed in woodland.	Probable breeding	N/A
Greenfinch	5	1	1	0	0	0	Up to three singing/calling males and two with associated females recorded on first visit.	Probable breeding	One singing male recorded on first visit.	Probable breeding	N/A
House sparrow	31	4	0	1	1	1	Present around farm buildings just outside the Project Site. Up to twelve pairs likely to breed locally.	Probable breeding	Recorded around buildings.	Probable breeding	Section 7 BoCC Red List
Herring gull	0	0	2	0	0	0	N/A	N/A	Flyover.	Non-breeding	BoCC Red List
Jackdaw	14	0	0	0	0	0	Feeding flock observed on first visit only. May breed locally.	Possible breeding	N/A	N/A	N/A
Jay	2	0	0	0	1	0	Two birds heard calling from substation area on first visit.	Possible breeding	One bird calling in woodland around substation.	Possible breeding	N/A
Lapwing	3	0	0	0	6	0	Up to two pairs recorded, may breed in fields to the north of the Project Site although only recorded immediately outside of Project Site Boundary chasing corvids.	Possible breeding	Three pairs recorded displaying, recorded between fields in the north of the Project Site and to the north beyond the Project Site Boundary. Likely to breed outside of the Project Site Boundary due to absence of suitable habitat in the north of the Site and suitable habitat availability to the north of the Site.	Non breeding (Probable breeding outside Project Site)	Section 7 BoCC Red List
Lesser redpoll	6	0	5	0	0	0	Three pairs heard calling in flight on first visit.	Possible breeding	Pair and flock of three recorded in flight during early visit.	Possible breeding	Section 7 BoCC Red List
Lesser whitethroat	1	3	0	0	0	0	One pair bred on site in mature hedgerow in southern part of the Project Site. Observed feeding young on second visit.	Confirmed breeding	N/A	N/A	N/A
Linnet	5	0	0	4	0	0	Small feeding party observed in northern part of the Project Site.	Possible breeding	Small party observed in flight in southern part of the Project Site.	Possible breeding	Section 7 BoCC Red List
Long tailed tit	0	6	2	2	0	0	Family party observed near the Project Site Boundary in west.	Probable breeding	Pairs and individual birds recorded in the south of the Project Site.	Probable breeding	N/A

Species	Survey						Summary 2017	Breeding Status 2017	Summary 2018	Breeding Status 2018	Species Designation
	Visit 1 (2017)	Visit 2 (2017)	Visit 4 (2018)	Visit 5 (2018)	Visit 6 (2018)	Visit 7 (2018)					
Meadow pipit	8	11	1	1	0	2	Commonly occurring and presumed breeding in marshy grassland across the Project Site with up to five pairs likely.	Probable breeding	Recorded in marshy grassland in the south of the Project Site.	N/A	BoCC Amber List
Mistle thrush	4	2	0	0	0	1	Small family party seen in field at northern part of the Project Site on first visit and two juveniles on second survey in same area.	Probable breeding	One individual recorded in south of the Project Site.	N/A	BoCC Red List
Nuthatch	1	0	0	1	2	1	One bird heard calling on first visit close to substation.	Possible breeding	Heard calling in woodland in the centre of the Project Site and around substation.	Probable breeding	N/A
Pied wagtail	2	0	0	0	0	1	One pair seen carrying food near the centre of the Project Site on first visit	Confirmed breeding	Single bird flying over, near woodland.	Possible breeding	N/A
Raven	1	0	0	0	0	0	Single bird flying over on first visit.	Possible breeding	N/A	N/A	N/A
Robin	18	11	18	22	10	16	Common breeder with adults and young observed on each survey. Likely to be up to fifteen pairs breeding.	Confirmed breeding	Common across the Project Site in woodland and hedgerows, up to twenty pairs.	Probable breeding.	N/A
Rook	45	19	16	1	0	0	Seen feeding in fields with sheep to the south of the Project Site on each visit.	Possible breeding	Flock of ten and five recorded in centre of the Project Site. Flew from large tree, possible rookery.	Possible breeding	N/A
Redstart	3	1	0	0	0	0	Three alarm calling males observed on first visit likely to be indicative of breeding of up to three pairs.	Probable breeding	N/A	N/A	BoCC Amber List
Reed bunting	3	0	0	0	0	0	Two males one definitely paired observed in marshy grassland.	Probable breeding.	N/A	N/A	Section 7 BoCC Amber List
Skylark	4	4	0	0	3	1	Four singing males observed on each visit three from south and one in north of Project Site.	Probable breeding.	Singing males observed across the Project Site.	Probable breeding.	Section 7 BoCC Red List
Song thrush	8	2	8	9	7	4	Eight singing males recorded on first visit although survey commenced late in season so probably under-recorded. Up to twelve pairs likely to breed.	Probable breeding.	Up to nine singing males recorded across the Project Site.	N/A	Section 7 BoCC Red List
Stonechat	2	2	0	1	2	4	One pair observed close to the centre of the Project Site and a pair observed along the northern boundary on the second survey.	Probable breeding.	Up to two pairs. One pair observed close to the centre of the Project Site and a pair observed along the northern boundary.	N/A	N/A
Starling	13	2	0	0	0	0	Small feeding flock on first visit and two fledged juveniles recorded on second visit. Likely to breed in farm buildings within or close to Project Site.	Confirmed breeding	N/A	N/A	Section 7 BoCC Red List

Species	Survey						Summary 2017	Breeding Status 2017	Summary 2018	Breeding Status 2018	Species Designation
	Visit 1 (2017)	Visit 2 (2017)	Visit 4 (2018)	Visit 5 (2018)	Visit 6 (2018)	Visit 7 (2018)					
Swift	16	0	0	0	0	0	Hunting over marshy grassland at dusk on first visit.	Not breeding	N/A	N/A	BoCC Amber List
Tawny owl		1	0	0	0	0	Male heard calling on second visit only in woodland south of the Project Site Boundary.	Possible breeding	N/A	N/A	BoCC Amber List
Tree pipit	4	1	2	2	2	2	Adults only observed in south of the Project Site on all visits.	Probable breeding	Recorded in south of the Project Site and centre of the Project Site along the track.	N/A	Section 7 BoCC Red List
Whitethroat	13	5	0	0	2	2	Up to eight pairs likely to breed. Common in scrub and mature hedgerows across the Project Site.	Probable breeding	Recorded in centre of the Project Site in hedgerows along the track.	N/A	N/A
Wren	21	7	10	25	20	8	Common breeding species throughout the Project Site with up to fifteen pairs likely. Juveniles being fed observed on second visit.	Confirmed breeding	Common across the Project Site in woodland and hedgerows.	Probable breeding	N/A
Willow warbler	24	9 (including juv recently fledged)	0	5	5	7	Common breeder throughout the Project Site. Up to twenty pairs likely.	Confirmed breeding	Common in woodland in centre and south of the Project Site.	Probable breeding	BoCC Amber List

1.7 Conclusions

- 1.7.1 The Project Site supports a varied assemblage of breeding birds typical of the size, habitat types and regional location. The surveys undertaken in 2014 and 2017 produced very similar results which is unsurprising considering that the habitats and management practices have changed little between the surveys.
- 1.7.2 The 2018 surveys recorded similar species assemblages as for 2014 and 2017 but the numbers of birds were reduced due to a reduced survey area.

1.8 Recommendations

a) Recommendations for Further Surveys

- 1.8.1 No further surveys are required.

b) Recommendations for Mitigation

- 1.8.2 A full series of recommendations for further surveys and mitigation at construction and operation has been undertaken for the EclA. Mitigation should focus on avoiding removal of habitat within the bird breeding season of March – August inclusive and to ensure that replacement landscape planting seeks to provide alternative habitat for those species present. Ecological mitigation methods are set out in the Landscape and Ecology Mitigation Plan (ES Appendix 3.4) and secured through the Development Consent Order (DCO).

c) Recommendations for Biodiversity Enhancement

- 1.8.3 A full series of recommendations for biodiversity enhancement has been made during the EclA and reported in the Landscape and Ecology Mitigation Plan (ES Appendix 3.4), and secured through the Development Consent Order (DCO).
- 1.8.4 Following additional surveys in 2018 the following recommendations as set out in the ES still remain valid:
- Provide nesting boxes in woodland and buildings for a range of species including house sparrow, starling and tawny owl; and,
 - Improve the availability of breeding and foraging habitat within the Project Site by planting new scrub, hedgerows, and infilling current gaps in hedgerows with whips and creating green corridors. It is recommended to use native species.

References

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Figure 1 Breeding Bird Transect

Project Title:

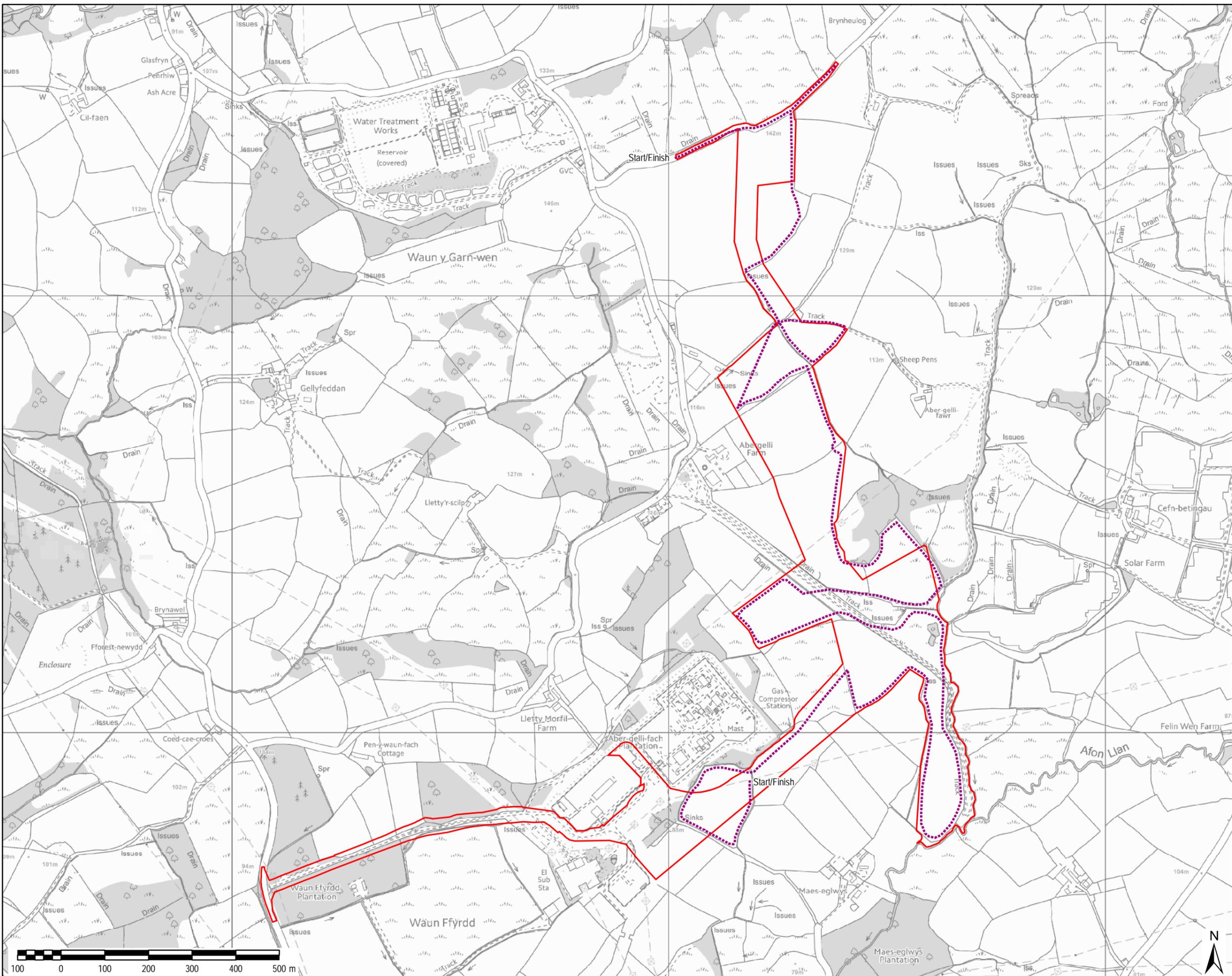
ABERGELLI POWER PROJECT

Client:

ABERGELLI POWER LTD.

LEGEND

- Breeding Bird Transect
- Project Site Boundary



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Drawing Title:

BREEDING BIRD SURVEY TRANSECT APRIL/MAY 2018

Scale at A3: 1:8,000

Drawing No: Rev:

FIGURE 1 001

Drawn: Chk'd: App'd: Date:

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