

# **Appendix 5. Biodiversity**

## **5.1 Breeding and Wintering Bird Survey Report (Delichon Ecology, 2025)**



## Cashla Peaker Plant



## Bird Surveys

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## Cashla Peaker Plant Breeding & Wintering Bird Survey

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# 1. Introduction

Delichon Ecology Ltd was commissioned by AtkinsRéalis / Bord Gáis Energy, to undertake a wintering and breeding bird survey for the Cashla Peaker Plant project, at Rathmorrissy and Pollnagroagh, Athenry, Co. Galway. The extent of the Peaker Plant boundary and associated access route is presented in **Figure 1.1**.

This current study consisted of walkover surveys that incorporated field transect surveys, field scanning surveys and presence / absence surveys of overwintering wetland species and breeding bird surveys within the proposed Peaker plant boundary and associated access road. These surveys were undertaken to assess the presence, pattern of usage and current conservation status of wintering bird species (particularly waders and wildfowl) and breeding bird species found within and in the vicinity of the project area. The surveys were based along two transect areas as displayed in **Figure 1-2**. These surveys were also used to evaluate the importance and potential ecological significance of the study area and its environs to support avifauna, both breeding and over-wintering.

## 1.1 Aims of the Proposed Survey

- To record quantitative spatial data on wintering wetland birds and breeding birds on the proposed works footprint and environs, and
- To quantify bird species number and distribution, foraging, resting and roosting areas / activity.

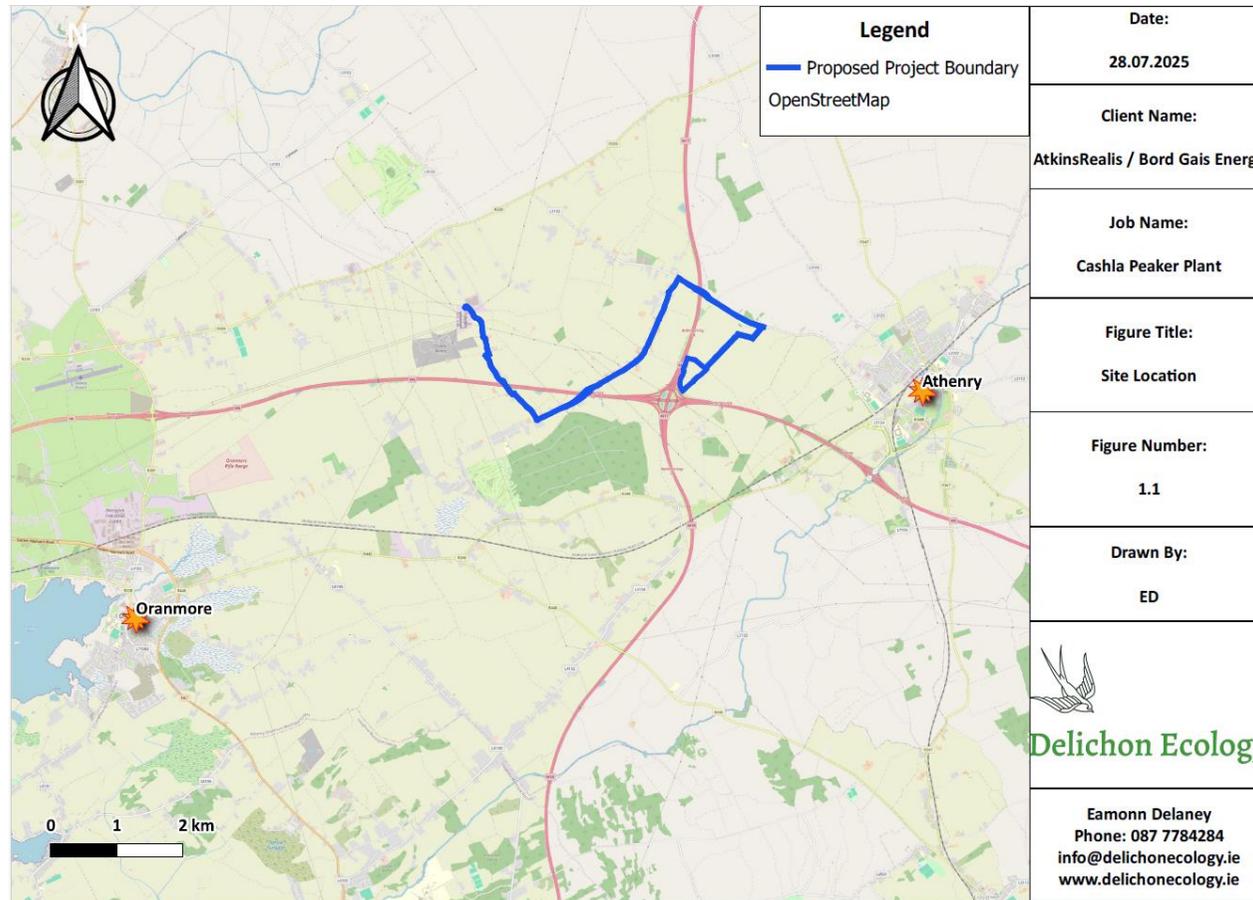


Figure 1-1: Peaker plant boundary and extent of the proposed pipeline footprint

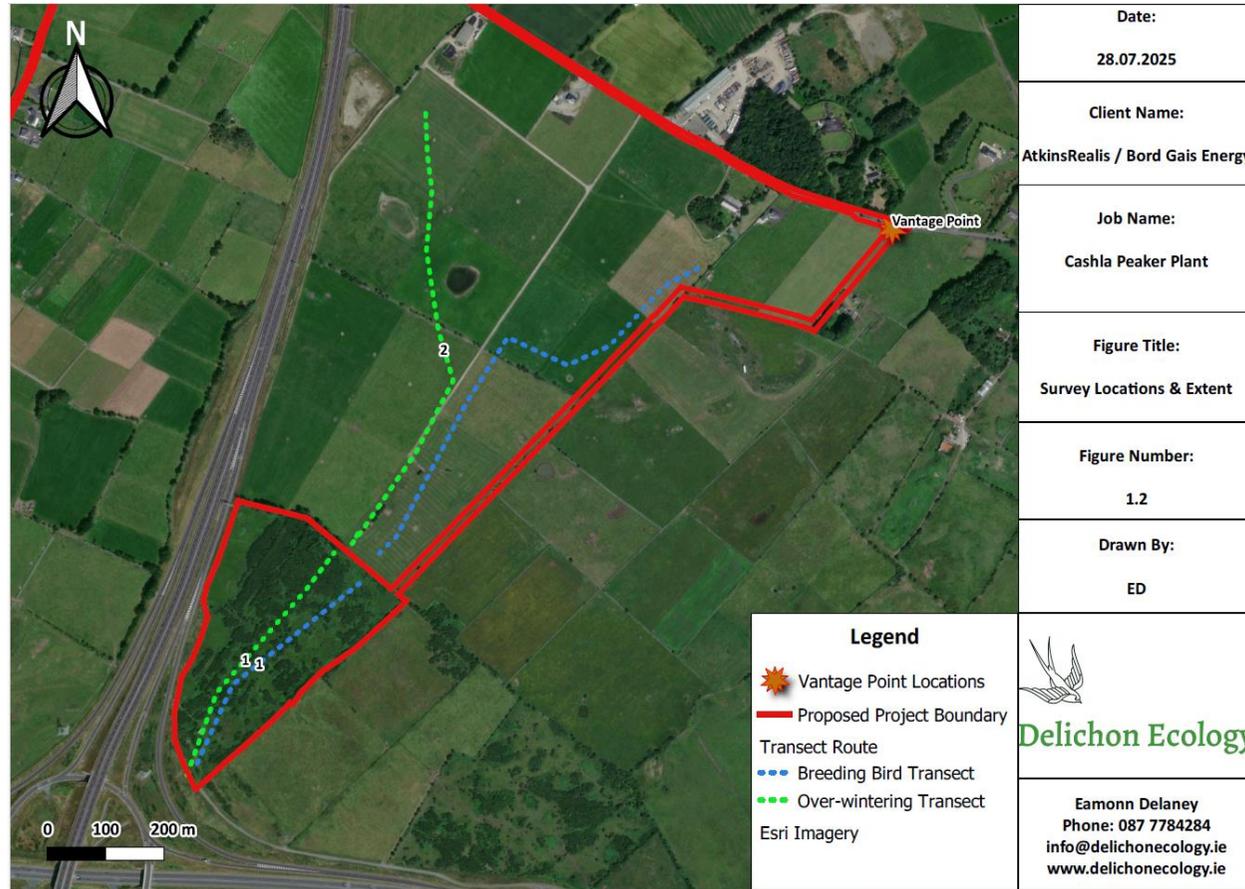


Figure 1-2: Survey Locations & Extent



## 2 Methodology

### 2.1.1 Wintering Bird Surveys

Bird Survey methodology undertaken for the proposed development included a series of line transects, field scans and distribution mapping from vantage points affording good views. The bird surveys were conducted in accordance with the methodology described by Bibby *et al.* (2000), BirdWatch Ireland (2021) and line transect methodologies presented in BirdWatch Ireland (2012). The survey area extent was based on the footprint and surrounding environs of the proposed development.

A widely used method for wetland and waterbirds is that described by Bibby (2000) as a ‘look-see’ approach which is an instantaneous count from one or more (or continuous) viewpoints over a subject waterbody or larger wetland area/site. The walkover surveys were supplemented by two Vantage Point look-see locations which provided an overview of the northern section of the study area, in particular the access road serving the proposed Peaker plant.

Four field walkover surveys were undertaken between December 2024 and February 2025, between 08.00 – 17.00 hrs, during suitable weather conditions (Bibby *et al.* 2000). Survey dates are provided in **Table 2.1** below. The location and extent of the line transect surveys and Vantage Points are presented in **Figure 1.2**.

**Table 2-1: Over-wintering bird survey dates**

Survey Date	Survey Effort	Survey Conditions
December 19 <sup>th</sup> 2024	Wintering Bird Survey – spot counts, Vantage Point Look-see in accordance with Bibby <i>et al.</i> , (2000)	Octas 1/8, Visibility Good – Excellent, BF 1-2 NW, No rain
December 30 <sup>th</sup> 2024	Wintering Bird Survey – spot counts, Vantage Point Look-see in accordance with Bibby <i>et al.</i> , (2000)	Octas 8/8, Visibility Good, BF 2-3 SW, No rain
January 25 <sup>th</sup> 2025	Wintering Bird Survey – spot counts, Vantage Point Look-see in accordance with Bibby <i>et al.</i> , (2000)	Octas 4/8, Visibility Good - Excellent, BF 0-1 SW, No rain
February 27 <sup>th</sup> 2025	Wintering Bird Survey – spot counts, Vantage Point Look-see in accordance with Bibby <i>et al.</i> , (2000)	Octas 4/8, Visibility Good - Excellent, BF 0-1 W, No rain

All bird species encountered (seen or heard) during the surveys were recorded, together with the abundance of each species. Birds flying over the site were also included as part of the observations. Casual records of birds encountered during the spot counts and field walkovers, but outside of dedicated survey period were also noted.



### 2.1.2 Breeding Bird Surveys

Bird Survey methodology undertaken two line transects (See **Figure 1.2**) with all birds seen or heard recorded (Bibby et al. 2000 & BirdWatch Ireland, 2012). Birds were recorded in three distance bands from the observer: <25m, 25-100m and >100m.

Three survey visits were conducted; an early breeding season survey (before May 15<sup>th</sup>) to identify and determine the occurrence abundances of resident breeding birds and two later breeding season surveys (after May 15<sup>th</sup>) to identify the occurrence and abundance of migratory breeding bird species.

The survey area extent and the line transect locations are based on the footprint and surrounding environs of the proposed development.

The line transect locations are presented in **Figure 1.2**. The survey locations remained the same for both field visits.

Three field walkover surveys were undertaken between May 2025 and June 2025, during suitable weather conditions (Bibby *et al.* 2000). Survey dates are provided in **Table 2.2** below.

**Table 2-2: Breeding bird survey dates**

Survey Date and Period	Survey Time (Extent)	Survey Conditions	Survey Effort
May 02 <sup>nd</sup> 2025 (Early Season)	07:04 – 07.22	Bright, dry and cool. Good to Excellent visibility, Octas 2/8. No rain, Windspeed BF 0-1 North.	Breeding Bird survey – line transect surveys and scan / overview of adjacent lands.
May 23 <sup>rd</sup> 2025 (Late Season)	07.02 – 07.33	Good to Excellent visibility, Octas 7/8. No rain, Windspeed BF 0-1 South.	Breeding Bird survey – line transect surveys and scan / overview of adjacent lands.
June 26 <sup>th</sup> 2025 (Late Season)	07.08 – 07.36	Octas 3/8. No rain. Excellent Visibility, Windspeed BF 0-1 W / SW.	Breeding Bird survey – line transect surveys and scan / overview of adjacent lands.

All bird species encountered (seen or heard) during the surveys were recorded, together with the abundance of each species. Birds flying over the site were also included as part of the observations. Casual records of birds encountered during the spot counts and field walkovers, but outside of dedicated survey period were also noted.

### 2.1.3 Conservation Status of Bird Species

The conservation status of bird species recorded during the transect surveys and scoping exercise was assessed with reference to; the EU Birds Directive (2009/147/EC) Annex I list and Birds of Conservation



Concern in Ireland; (BoCCI) (Gilbert & Lewis, 2021)<sup>1</sup>. For the BoCCI list; Red-listed species are of high conservation concern in Ireland, Amber-listed species are considered of medium conservation concern, while Green-listed species are not of conservation concern in Ireland at present. Bird species listed on Annex I of the EU Birds Directive are considered of high conservation concern across Europe.

For the proposed breeding bird survey, the numbers of birds along each transect was recorded and breeding evidence / behaviour of the birds identified were recorded in accordance with the breeding status codes outlined by the British Trust for Ornithology (BTO). The BTO Breeding Status Codes are presented in **Appendix A**.

#### 2.1.4 Zone of Influence

The current guidance on ecological assessments (CIEEM, 2024)<sup>2</sup> recommends that all ecological features that occur within a 'Zone of Influence' (Zol) for a proposed development are investigated.

The Zol for the bird surveys includes:

- areas directly within the proposed development footprint;
- areas adjoining and in proximity to the proposed development providing suitable avifaunal habitat;
- areas adjoining the proposed development footprint subject to indirect impacts (such as disturbance impacts) from the proposed works;
- areas which will be temporarily affected during construction;
- areas likely to be impacted by hydrological disruption; and
- areas where there is a risk of pollution and noise disturbance during construction and/or operation.

The Zol is variable depending on the ecological receptors affected. Given the extent of the proposed development area (**Figure 3.1**), in this case the Zol is the footprint of the proposed development and immediately adjoining and surrounding lands.

#### 2.1.5 Constraints to field survey

There were no constraints in relation to field survey work undertaken.

#### 2.1.6 Conditions, coverage and spatial data framework

Wintering surveys were conducted on four dates from December 19<sup>th</sup> 2024 to February 27<sup>th</sup> 2025 while breeding surveyed were conducted on three dates between May 02<sup>nd</sup> and June 26<sup>th</sup> 2025 (See **Table 2.1**), each being approximately 60 to 90 minutes in duration (including travelling to and from the extent of the site). Weather conditions were generally suitable without rain (or very little intermittent rainfall) or strong winds and generally good visibility (low sun and glare was encountered some days during the wintering season, which is normal for this time of the year and time of survey).

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<sup>1</sup> Gilbert G, Stanbury A and Lewis L (2021), "Birds of Conservation Concern in Ireland 2020 –2026". Irish Birds 9: 523–544

<sup>2</sup> Chartered Institute of Ecology and Environmental Management (CIEEM) Version 1.3 (September 2024), Guidelines for Ecological Impact Assessment in the UK and Ireland.



This survey focused on the potential occurrence of waterbird species (including waders and wildfowl) within the proposed development site and its environs. Other bird groups were noted where possible, in terms of presence and prevalence, but were not counted or recorded in a systematic way, as this was straying from the survey objective and beyond its scope. Raptor species were also recorded.

For the wintering bird survey, the target species were categorised as wetland and waterbirds; i.e., birds that are ecologically dependent on aquatic and wetland habitats. This includes migratory species whose populations depend on the biogeographical zone of which Ireland is a key part and important owing to mild, oceanic conditions (Sheppard, 1993; Lewis *et al*, 2019). For the breeding bird survey element, the target species included ground nesting birds within the Peaker Plant and access road footprint, although all breeding bird species were identified during these surveys.



## 3 Results

### 3.1.1 Wintering Bird Surveys

The findings of the wintering bird surveys undertaken between December 2024 and February 2025 are presented in **Table 3.1** below. The findings of the wintering bird survey indicates that the proposed development site footprint, access road and its environs did not support regular or ongoing occurrences of wintering bird activity. The proposed Peaker plant footprint supports recently reclaimed ground (analysis of aerial photography indicates that this area previously supported extensive scrub cover) on undulating terrain which is suboptimal as roosting habitat for large waders and wildfowl as it does not provide required sightlines to detect approaching disturbances. In addition, the development footprint does not support any wetland areas or localised ponds or waterbodies.

The access road footprint follows field boundaries to the north / north-east of the Peaker plant and comprise rough improved grassland and adjoining dry stone walls. Two circular ponds, most likely fed by groundwater, are located ca. 260m west / north-west of the proposed access road. These ponds and their margins provide the most suitable habitat for wintering birds within the study areas and environs with Mallard using these ponds during the site visit of December 30<sup>th</sup> 2024. A moderate sized flock of Golden Plover (n=46) was identified grazing and roosting on improved grassland, north of the circular groundwater fed ponds during the January 2025 survey. These birds were likely passing through the site, utilising the improved grassland habitat as opportunistic grazing habitat. Golden Plover feed on a variety of soil and surface-living invertebrates, principally beetles and earthworms, but also plant material such as berries, seeds and grasses, and in winter are known to be attracted to mown grass or close-grazed pastures, stubbles, fallows, harvest-fields and other farmlands of open character, including flood lands (Cramp 1977-1993). There is no suitable breeding habitat for Golden Plover within the proposed development site and its adjoining habitats. Individual Snipe were identified (flushed during the surveys) utilising the improved grassland habitat within the Peaker plant footprint and to the north of the Peaker plant. Snipe routinely utilised damp and poor draining grassland habitats as temporary / opportunistic winter roosting and foraging sites.

Other passerine, corvid and thrush; i.e. non-waterbird or waterfowl species were identified using the site and its environs during the site walkover survey. These species include Starling (small flocks grazing on extensive grassland), Wren, Meadow Pipit, Stonechat, Fieldfare, Rook, Dunnock, Robin, Blackbird, Woodpigeon, Redwing, Mistle Thrush, Pied Wagtail and Hooded Crow. Buzzard was also heard calling offsite, on pastoral lands to the east of the proposed Peaker plant in January 2025 and February 2025.



Table 3-1: Wintering Bird Survey Results for Cashla Peaker Plant

BTO Species Code	Bird Species Common Name	Bird Species Scientific Name	Seasonality R: Resident W: Winter M: Migratory	Conservation Status: BOCC14 red-data list; A1=Annex 1	Survey period - Total Counts				Peak No. recorded 2024/2025	All Ireland 1% Threshold <sup>3</sup>
					Dec 19 <sup>th</sup> -2024	Dec 31 <sup>st</sup> 2024	January 25 <sup>th</sup> -2025	February 27 <sup>th</sup> -2025		
SN	Snipe	<i>Gallinago gallinago</i>	W	Red	2	-	1	-	2	n/a
GP	Golden Plover	<i>Pluvialis apricaria</i>	W	A1 / Red	-	-	46	-	46	920
MA	Mallard	<i>Anas platyrhynchos</i>	R/W	Amber	2	-	-	-	2	280

<sup>3</sup> All-Ireland estimates and trends in relative abundance of wildfowl and their allies. The estimates given are based on mean of peak counts with imputation unless otherwise stated. The 1% thresholds are calculated (with roundings) as 1% of the respective all-Ireland totals. Percentage changes in estimates since the previous period (2006/07-2010/11; Crowe & Holt 2013, as revised) and the first set of I-WeBS/WeBS estimates (1994/95-1998/99; Crowe et al. 2008).



### 3.1.2 Breeding Bird Surveys

The findings of the breeding bird surveys undertaken between May 2025 and June 2025 are presented in **Table 3.2** below. The findings of the breeding bird survey display an assemblage of commonly occurring and widespread passerine, corvid, thrush and migratory warbler and hirudine species. The majority of the species identified during the breeding bird survey were associated with the site boundaries and outer margins of the study area, in particular the linear woodland and scrub habitats which support resident species such as Goldcrest, Goldfinch, Blackbird, Robin, Wren, Dunnock and Song Thrush, in addition to migratory Willow Warbler (occurring near the Peaker plant's southern boundary).

The footprint of the proposed Peaker plant is mostly unsuitable for breeding passerine and wader species due to its open nature and dominance of a species poor improved grassland sward, use by grazing livestock and mowing regime and consequent absence of breeding habitat and refugia. Nonetheless, this area and the more extensive areas of improved grassland to the north displayed territorial (displaying / singing males) Meadow Pipit and Skylark. Other species typically associated with the study area and environs included Hooded Crow, Rook and Starling, the latter two species occurring in elevated numbers following silage harvesting. Migratory hirudine species Swallow, Sand Martin and House Martin were identified foraging to the west of the proposed access road over two circular groundwater fed pond habitats. Both Mallard and Moorhen were identified within the groundwater fed ponds during the May 02<sup>nd</sup> survey, however confirmed evidence of breeding behaviour was not established during this survey or during subsequent surveys in mid May and late June 2025.

Other passerine and migratory species identified using the site and its environs outside of the transect survey periods include Goldcrest, Goldfinch, Swallow and Chaffinch (May 02<sup>nd</sup> 2025).



Table 3-2: Breeding Bird Survey Results for Cashla Peaker Plant

BTO Species Code	Bird Species Common Name	Bird Species Scientific Name	Seasonality R: Resident M: Migratory	Conservation Status: BOCCI4 red-data list; A1=Annex 1	Survey period - Total Counts			Activity on Site	BTO Breeding Code <sup>4</sup>
					May 02 <sup>nd</sup> 2025	May 23 <sup>rd</sup> 2025	June 26 <sup>th</sup> 2025		
WW	Willow Warbler	<i>Phylloscopus trochilus</i>	M	Amber	1	1		Calling from scrub to the south of the plant boundary	S
ST	Song Thrush	<i>Turdus philomelos</i>	R	Green	1	1		Singing and foraging within and along linear woodland fringing the site	S
M.	Mistle Thrush	<i>Turdus viscivorus</i>	R	Green		1		Singing and foraging within and along linear woodland fringing the site	S
WR	Wren	<i>Troglodytes troglodytes</i>	R	Green	8	1	4	Singing and foraging	S

<sup>4</sup> British Trust for Ornithology (BTO) Breeding Status Codes are also included for each species identified.



BTO Species Code	Bird Species Common Name	Bird Species Scientific Name	Seasonality R: Resident M: Migratory	Conservation Status: BOCCI4 red-data list; A1=Annex 1	Survey period - Total Counts			Activity on Site	BTO Breeding Code <sup>4</sup>
					May 02 <sup>nd</sup> 2025	May 23 <sup>rd</sup> 2025	June 26 <sup>th</sup> 2025		
								within and along linear woodland fringing the site	
S.	Skylark	<i>Alauda arvensis</i>	R	Amber	5	3	3	Singing males displaying over expansive improved grassland fields within the Peaker plant site and to the north of the Peaker Plant site.	S, H
MP	Meadow Pipit	<i>Anthus pratensis</i>	R	Red		2	1	Singing males displaying over expansive improved	S,H



BTO Species Code	Bird Species Common Name	Bird Species Scientific Name	Seasonality R: Resident M: Migratory	Conservation Status: BOCCI4 red-data list; A1=Annex 1	Survey period - Total Counts			Activity on Site	BTO Breeding Code <sup>4</sup>
					May 02 <sup>nd</sup> 2025	May 23 <sup>rd</sup> 2025	June 26 <sup>th</sup> 2025		
								grassland fields within the Peaker plant site and to the north of the Peaker Plant site.	
B.	Blackbird	<i>Turdus merula</i>	R	Green	1	1	2	Singing and foraging within and along linear woodland fringing the site	
RO	Rook	<i>Corvus frugilegus</i>	R	Green	4	60+	2	Overflying and feeding on recently cut silage fields, within the Peaker plant site and to the north of the	F, U



BTO Species Code	Bird Species Common Name	Bird Species Scientific Name	Seasonality R: Resident M: Migratory	Conservation Status: BOCCI4 red-data list; A1=Annex 1	Survey period - Total Counts			Activity on Site	BTO Breeding Code <sup>4</sup>
					May 02 <sup>nd</sup> 2025	May 23 <sup>rd</sup> 2025	June 26 <sup>th</sup> 2025		
								Peaker Plant site.	
CH	Chaffinch	<i>Fingilla coelebs</i>	R	Green	1	2		Singing and foraging within and along linear woodland fringing the site	S,H
LI	Linnet	<i>Linaria cannabina</i>	R	Amber	1			Using telephone lines and linear scrub to the west of the access road.	S
MH	Moorhen	<i>Gallinula chloropus</i>	R	Green	1			Using groundwater fed ponds, west of the access road.	H
MA	Mallard	<i>Anas platyrhynchos</i>	R	Amber	1	2		Using groundwater fed ponds,	H



BTO Species Code	Bird Species Common Name	Bird Species Scientific Name	Seasonality R: Resident M: Migratory	Conservation Status: BOCCI4 red-data list; A1=Annex 1	Survey period - Total Counts			Activity on Site	BTO Breeding Code <sup>4</sup>
					May 02 <sup>nd</sup> 2025	May 23 <sup>rd</sup> 2025	June 26 <sup>th</sup> 2025		
								west of the access road.	
PW	Pied Wagtail	<i>Motacilla alba yarrelli</i>	R	Green	1	1		Using in-situ access tracks and adjoining hard standing areas.	H
GR	Greenfinch	<i>Chloris chloris</i>	R	Amber		1		Singing and foraging within and along linear woodland fringing the site	S
HC	Hooded Crow	<i>Corvus corone</i>	R	Green		6		Overflying the site and foraging along the site margins	F
GC	Goldcrest	<i>Regulus regulus</i>	R	Amber		1		Singing and foraging within and along linear	S



BTO Species Code	Bird Species Common Name	Bird Species Scientific Name	Seasonality R: Resident M: Migratory	Conservation Status: BOCCI4 red-data list; A1=Annex 1	Survey period - Total Counts			Activity on Site	BTO Breeding Code <sup>4</sup>
					May 02 <sup>nd</sup> 2025	May 23 <sup>rd</sup> 2025	June 26 <sup>th</sup> 2025		
								woodland fringing the site	
D.	Dunnock	<i>Prunella modularis</i>	R	Green		1		Singing and foraging within and along linear woodland fringing the site	S
SG	Starling	<i>Sturnus vulgaris</i>	R	Amber		80		Feeding on expansive improved grassland fields	F,U
SL	Swallow	<i>Hirundo rustica</i>	M	Amber		11	2	Feeding over ponds to the west of the access route	F
SM	Sand Martin	<i>Riparia riparia</i>	M	Amber		2		Feeding over ponds to the west of the access route	F



BTO Species Code	Bird Species Common Name	Bird Species Scientific Name	Seasonality R: Resident M: Migratory	Conservation Status: BOCCI4 red-data list; A1=Annex 1	Survey period - Total Counts			Activity on Site	BTO Breeding Code <sup>4</sup>
					May 02 <sup>nd</sup> 2025	May 23 <sup>rd</sup> 2025	June 26 <sup>th</sup> 2025		
HM	Houe Martin	<i>Delichon urbicum</i>	M	Amber			1	Feeding over ponds to the west of the access route	F
WP	Wood Pigeon	<i>Columba palumbus</i>	R	Green			3	Associated with linear woodland on site margins & overflying the study area	F
LB	Lesser Black-backed Gull	<i>Larus fuscus</i>	R/M	Amber			2	Overflying expansive improved grassland fields toward the north of the access route	F



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## APPENDIX A – BTO BREEDING SPECIES CODES



### Breeding Status Codes

Non-breeding	
<b>F</b>	Flying over
<b>M</b>	Species observed but suspected to be still on <b>M</b> igration
<b>U</b>	Species observed but suspected to be s <b>U</b> mmerring non-breeder
Possible breeder	
<b>H</b>	Species observed in breeding season in suitable nesting <b>H</b> abitat
<b>S</b>	<b>S</b> inging male present (or breeding calls heard) in breeding season in suitable breeding habitat
Probable breeding	
<b>P</b>	<b>P</b> air observed in suitable nesting habitat in breeding season
<b>T</b>	Permanent <b>T</b> erritory presumed through registration of territorial behaviour (song etc) on at least two different days a week or more part at the same place or many individuals on one day
<b>D</b>	Courtship and <b>D</b> isplay (judged to be in or near potential breeding habitat; be cautious with wildfowl)
<b>N</b>	Visiting probable <b>N</b> est site
<b>A</b>	<b>A</b> gitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby
<b>I</b>	Brood patch on adult examined in the hand, suggesting <b>I</b> ncubation
<b>B</b>	Nest <b>B</b> uilding or excavating nest-hole
Confirmed breeding	
<b>DD</b>	<b>D</b> istraction- <b>D</b> isplay or injury feigning
<b>UN</b>	<b>U</b> sed <b>N</b> est or eggshells found (occupied or laid within period of survey)
<b>FL</b>	Recently <b>F</b> ledged young (nidicolous species) or downy young (nidifugous species). Careful consideration should be given to the likely provenance of any fledged juvenile capable of significant geographical movement. Evidence of dependency on adults (e.g. feeding) is helpful. Be cautious, even if the record comes from suitable habitat.
<b>ON</b>	Adults entering or leaving nest-site in circumstances indicating <b>O</b> ccupied <b>N</b> est (including high nests or nest holes, the contents of which can not be seen) or adults seen incubating
<b>FF</b>	Adult carrying <b>F</b> aecal sac or <b>F</b> ood for young
<b>NE</b>	<b>N</b> est containing <b>E</b> ggs
<b>NY</b>	<b>N</b> est with <b>Y</b> oung seen or heard