



# Preliminary Environmental Information Report

## Appendix 9B: Breeding Bird Surveys

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## 9.0 Breeding Bird Survey Results

### 9.1 Introduction

9.1.1 This Appendix presents the results of breeding bird surveys at Future Energy Llanwern in relation to an application for a Development Consent Order (DCO) for the installation of Solar photovoltaic (PV) panels. The surveys were commissioned by Future Energy Llanwern Ltd.

9.1.2 The area within the PEIR Assessment Boundary is hereafter referred to as the 'Site'

#### 9.1.3 Aims

9.1.4 The aims of this report are to:

- Describe the methods used for collecting ecological baseline data;
- Identify the presence/ absence and distribution of breeding bird species, based on desk study data, field data or assumptions based on the information available.

#### 9.1.5 Legislation

9.1.6 The European Union (EU) meets its obligations to the protection of bird species under the Bern (79/409/EEC) and Bonn conventions and under the EU Directive 2009/147/EC 'The Birds Directive' (the codified version of Council Directive 79/409/EEC, as amended). In England and Wales, provisions of the EU 'Birds Directive' (and the Conservation (Natural Habitats, &c.) Regulations 1994 (92/43/EEC): the 'Habitats Directive') are implemented under the Conservation of Habitats and Species Regulations 2017 (as amended).

9.1.7 Birds are also protected under the Wildlife and Countryside Act 1981 (as amended). In summary; all birds, their nests and eggs are protected by law and it is therefore an offence, with certain exceptions, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird whilst it is in use or

being built;

- Intentionally take or destroy the egg of any wild bird;
- Have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act or the Protection of Birds Act 1954;
- Have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act or the Protection of Birds Act 1954;
- Use traps or similar items to kill, injure or take wild birds;
- Have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations (see Schedules);
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.
- Those species listed on Schedules A1 and 1A receive additional protection which makes it an offence to intentionally or recklessly:
  - at any time take, damage, destroy or interfere with any nest habitually used by any wild bird included in Schedule A1; and
  - at any time harass any wild bird included in Schedule 1A.

### **Species of Principal Importance (SPI)**

- 9.1.8 Species listed under Section 7 of the Environment (Wales) Act 2016 are considered of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales and are a material consideration in the planning process.

### **Birds of Conservation Concern**

- 9.1.9 The surveys were conducted under the Birds of Conservation Concern lists: UK BoCC4

and Welsh BoCC3, which were the standard when the surveys began during 2019. These two lists were updated to the UK BoCC5 (Stanbury et al., 2021) and Welsh BoCC4 (Johnstone et al., 2022) and, where possible, the dataset presented has been updated to reflect these changes to the lists.

- 9.1.10 The lists assess the conservation status of national bird species using a well-established standardised approach resulting in three increasing levels of concern: Green, Amber and Red. **Table 9B-1** gives the criteria for each category; this criteria is the same for both UK and Welsh lists.

*Table 9B-1 Birds of Conservation Concern criteria*

Criteria	Selection criteria
<b>Red list</b>	IUCN: Globally Threatened (Critically Endangered; Endangered or Vulnerable). Historical decline in the breeding population: severe breeding population decline over 25 years/longer term. Severe non-breeding population decline over 25 years/longer term. Severe breeding range decline over 25 years/longer term.
<b>Amber list</b>	ERLOB: Threatened in Europe (Critically Endangered, Endangered, or Vulnerable). Historical decline – recovery. Moderate breeding population decline over 25 years/longer term. Moderate non-breeding population decline over 25 years/longer term. Moderate breeding range decline over 25 years/longer term. Moderate non-breeding range decline over 25 years. Breeding/non-breeding rarity. Breeding/non-breeding localisation.
<b>Green list</b>	Species considered least threatened i.e. do not qualify for either Red or Amber criteria.

- 9.1.11 The above legislation and conservation status criteria are used to assign the appropriate conservation status to all bird species recorded during surveys presented in the results of this report. Species referred to collectively as ‘species of conservation concern’ fall into one or more of the categories described above with the exception of ‘Green listed’ species alone.

### **Biodiversity Action Plan**

- 9.1.12 The Site lies within both Monmouthshire and Newport.
- 9.1.13 The Biodiversity Action Plan for Monmouthshire is published as a strategic document

that identifies the most urgent priorities for wildlife conservation in the county. The Local Biodiversity Action Plan (LBAP) also reflects the species that are thought to be of local importance in the county, identified through public consultation. Birds on the Monmouthshire BAP have been noted within **Annex B**. Newport does not have a list of bird species that are considered within the Newport Biodiversity Action Plan.

## 9.2 Methods

### Desk Study

- 9.2.1 The South East Wales Biodiversity Records Centre (SEWBRc) were consulted in January 2024 which included a search for sites designated for nature conservation value and records of protected and notable species within 2km of the Site Boundary. Full details are provided separately in **Appendix 8A – Desk Study** but referred to within this report where relevant.
- 9.2.2 Data was also requested from the British Trust for Ornithology (BTO) This included Monthly Core Counts at Redwick, Undy and Magor Reserve during 2014-2018. The yearly BTO Wetland Bird Survey (WeBS) counts for the Severn Estuary<sup>1</sup> was also referred to.

### Breeding Bird Surveys

- 9.2.3 Surveys were undertaken over fields that will contain Solar Arrays where access allowed, hereafter referred to as the “Survey Area”. The Site boundary has undergone multiple changes since the beginning of the breeding bird surveys fields that were new additions in 2024 to allow for cable routes have not been surveyed. Using GIS software, all the fields within the Survey Area were given a field number and then the Survey Area was subdivided into transects.
- 9.2.4 Ground nesting species are considered the key species of concern with regards to impacts from land taken by solar panels, therefore, the survey method was based on the methodology for censusing lowland breeding waders (Gilbert *et al.*, 1998). The surveys

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<sup>1</sup> Wetland Bird Survey (WeBS) data from Waterbirds in the UK 2023/24 © copyright and database right 2025. WeBS is a partnership jointly funded by the BTO, RSPB and JNCC, with fieldwork conducted by volunteers and previous support from WWT.

were undertaken in the following months:

- One survey per month during April and June with two surveys in May 2019
- Two surveys per month during April, May, June and July in 2020
- Two surveys per month during April, May, June and July in 2023

- 9.2.5 One of the May visits in 2023 was undertaken in the evening with the aim of recording any drumming/chipping snipe and barn owl.
- 9.2.6 Surveyors walked the transect routes, stopping regularly to scan and record birds on to field maps of at least 1:10,000 scale, using standard British Trust for Ornithology (BTO) species and activity codes (Marchant, 1983). All species of conservation concern e.g. Red and Amber listed species in BoCC4 (Eaton *et al.*, 2015) and BoCC3 (Wales)<sup>2</sup> (Johnstone & Bladwell, 2016) and SPI birds were recorded. Other more common species e.g. Green listed or introduced/feral species were recorded as present but not mapped.
- 9.2.7 Where surveyor availability and weather conditions allowed, surveys of the seven sections were undertaken on two consecutive mornings. Where possible, surveys were undertaken in suitable weather conditions, in good visibility, avoiding strong winds above Force 4 (Beaufort Scale) and heavy rain, exceptions have been detailed in **Section 9.2.13 Limitations**. Survey dates and weather conditions are provided in **Appendix B-1**.
- 9.2.8 Breeding bird status given using the using categories based on professional experience and the European Ornithological Atlas Committee Guidelines (EBCC, 2013), see **Table 9B-2**. Species nomenclature follow 'The British List' British Ornithologists Union (BOU) 2013. A full species list is given in the **Annex B**.

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<sup>2</sup> Since the surveys began, both BoCC documents have been updated but records continued to be collected according to these lists to keep data consistent throughout.

Table 9B-2 EBCC Breeding Bird Status Criteria

Breeding Status	Activity in the field
<b>Possible</b>	<ul style="list-style-type: none"> <li>Species observed in breeding season in possible nesting habitat;</li> <li>Singing male(s) present (or breeding calls heard) in breeding season.</li> </ul>
<b>Probable</b>	<ul style="list-style-type: none"> <li>A pair observed in suitable nesting habitat in breeding season;</li> <li>Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two different days;</li> <li>Courtship and display;</li> <li>Visiting probable nest-site;</li> <li>Brood patch on adult examined in the hand;</li> <li>Nest-building or excavating of nest-hole.</li> </ul>
<b>Confirmed</b>	<ul style="list-style-type: none"> <li>Distraction-display or injury-feigning;</li> <li>Used nest or eggshells found (occupied or laid within period of survey);</li> <li>Recently fledged young (nidicolous species) or downy young (nidifugous species)*;</li> <li>Adults entering or leaving nest-site in circumstances indicating occupied nest (including high nests or nest holes);</li> <li>Adult carrying a faecal sac or food for young;</li> <li>Nests containing eggs</li> <li>Nests with young seen or heard</li> </ul>
<p>* Some bird species can move significant distances from the nest shortly after fledging therefore the presence of juvenile birds from highly dispersive species with no records of previous signs of breeding within the study area would be treated as a possible breeding record only.</p>	

## Data Analysis

- 9.2.9 To avoid the data being skewed by birds commuting or migrating over the Site, only birds that were interacting with the Site; using the field, including for foraging; recorded in hedgerows or trees; and birds on waterbodies are included in this report. Foraging includes predatory birds flying over fields in search of prey, such as barn owl and marsh harrier.
- 9.2.10 The abundance and distribution of notable bird populations have been mapped. This includes ground nesting species such as lapwing, oystercatcher, curlew (**Figure 9.2.1**), barn owl (**Figure 9.2.2**), and lesser black backed gull (**Figure 9.2.3-5**) as these rely on areas of open habitat (e.g. pasture) for foraging and/or nesting and therefore will be the most affected by solar panel arrays.

- 9.2.11 Cetti's warbler and kingfisher distribution was also mapped, as these birds use reens and adjacent habitat for nesting which may need to be disrupted to create access (**Figure 9.2.6**).
- 9.2.12 The peak count of birds was taken from a single day to avoid double counting populations when surveys took place over multiple days. The number of surveys a bird was recorded in refers to the number of survey periods that the bird was seen in regardless of date, with a maximum of 20. The local status of each bird was taken from the Gwent Bird Report (2018)<sup>3</sup>.

### Limitations

- 9.2.13 The possibility of important ecological features being missed due to survey timings, absence during surveys or the year of survey cannot be ruled out.
- 9.2.14 Drizzle was reported at the end of the surveys on the 3<sup>rd</sup> June 2020. Instances of occasional light precipitation and drizzle are not considered to have significantly affected the results
- 9.2.15 Wind speeds exceeded Force 4 (Beaufort Scale) during surveys conducted on 28<sup>th</sup> June 2019 and on 11<sup>th</sup> July 2023. This was unavoidable due to a change in weather to that which was forecast, or the weather was far worse on other days. Poor weather may have affected surveyors recording abilities and may have reduced bird activity during these two surveys, however these represent a small handful of surveys undertaken over the three survey periods of the whole site, and any possible, probable of confirmed breeding statuses of birds in these transects is considered likely to have been picked up during the other surveys undertaken on these sections.
- 9.2.16 Much of the Site is currently managed as pastoral farmland. Surveyors deviated from the planned survey route when livestock were deemed dangerous for safe access to fields. In these circumstances, fields were observed from the field gate or from the vantage point provided by the sea wall and therefore not likely to have significantly affected the validity of results.

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<sup>3</sup> Gwent Ornithological Society (2018) Gwent Ornithological Society Annual Report, Gwent Bird Report 2017: Volume 52

## 9.3 Results

### Desk Study

#### Designated Sites

##### *National Site Network (NSN)*

9.3.1 There are no NSN sites within the Site boundary, however the Site is 20m north of the Severn Estuary SPA, a site that qualifies due to internationally important ornithological features<sup>4</sup>. The Severn Estuary is designated primarily for over-wintering species, and is therefore not considered further within this report (refer to **Appendix 9A - Winter Bird Survey Results** (GE Consulting, 2025)).

##### *Severn Estuary Ramsar*

9.3.2 The Severn Estuary is also internationally designated under the Convention on Wetlands of International Importance as a Ramsar, which includes habitat features, fish and populations of birds in winter (refer to **Appendix 9A - Winter Bird Survey Results** (GE Consulting, 2025)).

9.3.3 However the citation<sup>5</sup> indicates that subsequent to designation, the following species was identified for possible future consideration under criterion 6:

- lesser black-backed gull (breeding).

9.3.4 For lesser black-backed gull, the Ramsar supports 4167 apparently occupied nests, representing an average of 2.8% of the Great Britain breeding population (Seabird 2000 Census).

##### *Statutory Designated Sites*

9.3.5 Three areas of the Site are covered by the Gwent Levels – Redwick, Whitson, Nash & Goldcliff, Magor and Undy and Llandevenny SSSIs, which are designated for reed and ditch habitats, insects and other invertebrates including the shrill carder bee. It is not

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<sup>4</sup> <https://naturalresources.wales/media/673887/severn-estuary-sac-spa-and-ramsar-reg-33-advice-from-ne-and-ccw-june-09.pdf>

<sup>5</sup> <https://jncc.gov.uk/jncc-assets/RIS/UK11081.pdf>

designated for ornithological reasons and not considered further within this report.

- 9.3.6 Magor Marsh SSSI (& Wildlife Trust Nature Reserve) lies adjacent to the north-eastern section of the Site and is an important site for breeding water and marsh birds.
- 9.3.7 Newport Wetlands SSSI lies to the west of the Site and is important for reens and ditches, overwintering shoveller and black-tailed godwit and breeding water and marsh birds.

### Non-statutory Sites

- 9.3.8 There are 15 SINCs within 2km of the Site boundary. The closest is Elver Pill Reen & Grassland, a lagoon with a mosaic of swamp and neutral grassland near to the Site Boundary of the northern section of the Site. SINCs that are specifically described as being of value to breeding birds are detailed in **Table 9B-3** .

*Table 9B-3 SINCs within 2km of the Site Boundary pertaining to breeding birds*

SINC	Location from Site Boundary	Value to birds
Elver Pill Reen Grassland & Pond	Directly adjacent to N Row along north of Site	Supports Cetti's warblers [Also know to support breeding Crane]
Bridewell Common Field (also a Wildlife Trust Nature Reserve)	0.3km north of Site	Supports birds including snipe, stonechat and reed bunting
Gwent Wetland Reserve	0.9km west of Site	Supports internationally important numbers of wildfowl
Greenmoor Pool	1.1km north of Site	Supports bird populations including Cetti's warbler
Land at Barecroft Common	1.5km north of Site	Supports nesting birds including lapwing and curlew
Bowkett Field, Barecroft	1.7km north of Site	The reens, particularly on the eastern edge support mature willow scrub, host many bird species

### Species

- 9.3.9 The data search with SEWBReC returned just under 6,000 bird records within 2km of the Site area. These records however were from a broad time period with the earliest record from 1955 and therefore the results were filtered to include entries from no earlier

than April 2009 (i.e. ten years before the surveys started at the Site). Owing to the presence of resident bird species and then an influx of migrant species in spring, the breeding season for birds cannot be precisely defined and there is some overlap with the wintering season and there are also passage species to consider. For the purposes of this report, any records from 1<sup>st</sup> April to 30<sup>th</sup> September in any given year were considered to be breeding and any from 1<sup>st</sup> October to 31<sup>st</sup> March were considered to be wintering birds (see Technical Appendix 9.1 - Winter Bird Survey Results (GE Consulting, 2025)).

- 9.3.10 The data search from SEWBReC returned 140 species of birds in the spring and summer period from an area within 2km of the Site. Of the species in the SEWBReC records, 42 have the potential to breed on Site considering the habitats present (broadly; hedgerows, a plantation copse, trees, ditches, reens, scrub, and arable and pastoral farmland). These are listed in **Table 9B-4** and are detailed further in **Appendix 8A – Desk Study**.

*Table 9B-4 Desk Study Results Potentially Breeding Birds*

Scientific Name	Common Name
Accipiter gentilis	Goshawk
Aegithalos caudatus	Long-tailed Tit
Alauda arvensis	Skylark
Alcedo atthis	Kingfisher
Anas crecca	Teal
Anas platyrhynchos	Mallard
Anthus pratensis	Meadow Pipit
Branta canadensis	Canada Goose
Caprimulgus europaeus	Nightjar
Chloris chloris	Greenfinch
Cuculus canorus	Cuckoo
Curruca communis	Whitethroat
Emberiza citronella	Yellowhammer
Emberiza schoeniclus	Reed Bunting
Falco Subbuteo	Hobby
Falco tinnunculus	Kestrel
Fulica atra	Coot
Gallinago Gallinago	Snipe
Grus grus	Crane
Haematopus ostralegus	Oystercatcher
Linaria cannabina	Linnet
Locustella naevia	Grasshopper Warbler
Motacilla cinerea	Grey Wagtail
Motacilla flava	Yellow Wagtail
Muscicapa striata	Spotted Flycatcher

Numenius Arquata	Curlew
Passer domesticus	House Sparrow
Passer montanus	Tree Sparrow
Perdix perdix	Grey Partridge
Phoenicurus phoenicurus	Redstart
Phylloscopus trochilus	Willow Warbler
Picus viridis	Green Woodpecker
Prunella modularis	Dunnock
Pyrrhula pyrrhula	Bullfinch
Regulus regulus	Goldcrest
Sturnus vulgaris	Starling
Tadorna tadorna	Shelduck
Turdus philomelos	Song Thrush
Turdus viscivorus	Mistle Thrush
Tyto alba	Barn Owl
Vanellus Vanellus	Lapwing

### Common Crane

9.3.11 Common crane were recorded twice in 2018 surveys (GE Consulting, unpublished data) from grassland fields that are no longer within the PEIR Assessment Boundary. Breeding was not confirmed but this was likely to be the same pair that was recorded nesting in the area but failed to rear any chicks<sup>6</sup>. The location of the nest is not known but was likely off Site as nests are usually located in shallow water in wetlands<sup>7</sup>.

### Breeding Bird Surveys

#### Summary

9.3.12 Breeding bird survey data amounted to 3,531 records of which 23% were of birds within the fields, 36% were of birds in the hedges or field boundaries, 9% were of birds associated with a waterbody, 30% were of birds in flight and 2% of records did not note an associated habitat. Where no habitat was recorded due to surveyor error, where possible, habitats were inferred through surveyor comments on behaviour and breeding status.

9.3.13 A total of 98 bird species (breeding and non-breeding) were recorded on Site during the

<sup>6</sup> <https://www.livinglevels.org.uk/stories/2019/2/8/common-cranes>

<sup>7</sup> Stanbury, Andrew & Sills, N.. (2012). Common crane habitats in Britain. British Wildlife. 23. 381-390.

breeding bird surveys (see **Annex C**).

- 9.3.14 Of these 68 are notable species; 24 were confirmed as breeding on Site, 12 species that were 'probable' breeders on Site and a further 4 species were recorded as 'possible' breeders. Detailed species accounts are included in **Table 9B-5** .
- 9.3.15 Marsh harrier and peregrine were recorded exhibiting behaviours which correspond with a classification of 'probable breeding', however, due to their nesting behaviours and the information recorded by the surveyors, it is considered more likely that they are breeding in habitats off Site and using the Site for foraging opportunities and therefore these species have been classed as not breeding on Site.
- 9.3.16 Records of black-headed gull, house martin and swift showed 'possible' breeding behaviours, however, are more likely to be foraging on Site and breeding beyond the Site boundary, these birds have been classed as not breeding on Site.
- 9.3.17 Notable ground nesting species that are (at least 'possible') breeding on site include skylark, lapwing, curlew, oystercatcher and meadow pipit. Schedule 1 species barn owl are confirmed breeding on Site. Other schedule 1 species that are (at least 'possible') breeding on or close to the site are Cetti's warbler and kingfisher.

Table 9B-5 A summary of breeding bird survey results for notable bird species during April to July 2019, 2020, and 2023

Common and Scientific Names	Conservation Status	BBS Results Peak survey count	No. Surveys bird recorded during	Breeding Status	Local Status	Species Account
Barn Owl <i>Tyto alba</i>	Sch 1	2	9	Confirmed	Uncommon breeding resident	<p>Barn owl were recorded on Site during the breeding bird surveys. Nesting records comprised an occupied nest within a nest box in a tree within Field 35 along the southern boundary (2019) and from within the barn in Field 133 (2023). A barn owl was also recorded within a barn in the northwestern corner of Field 92 during 2020, although nesting was not confirmed. These two confirmed nesting sites are illustrated on <b>Figure 9.2.3</b>. There was one additional record of permanent territory within field 185, home ranges can overlap between breeding pairs.</p> <p><u>Incidental records of barn owl:</u>                      A barn owl was seen hunting in Field 509 on 19<sup>th</sup> June 2020.                      Barn owl were recorded during 5 bat surveys, though their behaviour was not recorded:                      14/04/2020           Field 53                      20/07/2023   Field 79                      02/08/2023   Field 180                      13/09/2023   Field 35 and 209</p>

						14/09/2023 Field 147
Black-headed Gull <i>Chroicocephalus ridibundus</i>	Red (Wales), S42, Amber (UK), LBAP	73	8	Non-breeding	Very rare breeder	Most records are of birds flying overhead in moderate numbers (up to 73 on one occasion). Low numbers (1-5) were recorded on single occasions loafing or foraging in Fields 126, 133 and 177 next to the coast.
Bullfinch <i>Pyrrhula pyrrhula</i>	Amber (Wales), S42, Amber (UK), LBAP	6	11	Confirmed	Common breeding resident	A very low number of bullfinch are considered to be breeding within the more established hedgerows/copses throughout the site.
Cetti's Warbler <i>Cettia cetti</i>	Sch 1	19	19	Confirmed	Uncommon breeding resident, through with recent range expansion	Male singing Cetti's warbler were recorded during a majority of surveys in boundaries with suitable habitat throughout the Site. It can be assumed that they are breeding within all vegetated reens.
Cuckoo <i>Cuculus canorus</i>	Red (Wales), S42, Red (UK), LBAP	1	4	Probable	Fairly Common Breeder	Male cuckoo were heard singing on-Site once during 26 <sup>th</sup> May 2020 in Field 113 and a handful of occasions in 2023 from Fields 14, 208 and 245, with an additional cuckoo in flight (non-breeding) was seen over field 192.
Curlew <i>Numenius arquata</i>	Red (Wales), S42, Red (UK)	44	10	Probable	Uncommon breeder	Curlew are recorded as 'probable' breeders within the Site 11 times across the breeding bird surveys with an additional record of 'possible' breeding. A peak count of 20 curlew in appropriate nesting habitats was recorded during the 2020 surveys, this peak count includes 15

						<p>individuals recorded in field 137 on 08/04/2020.</p> <p>During a low tide diurnal VP survey on 7<sup>th</sup> May 2020, a female curlew was observed in Field 137, thought to be sitting on a nest and a male flew in to join her, foraging close by. By 21<sup>st</sup> May the pair had gone, it is not known if this was a successful breeding attempt.</p> <p>One 'probable' breeding pair was recorded in 2023 from field 20.</p> <p>Fields identified as supporting potential breeding curlew are highlighted in Figure 9.2.1.</p>
Dunnock <i>Prunella modularis</i>	Amber (Wales), S42, Amber (UK), LBAP	18	20	Confirmed	Abundant breeding resident	Dunnock were recorded during all of the surveys in association with hedgerows with a peak count of 18 during 09/04/2020.
Gadwall <i>Mareca strepera</i>	Amber (UK)	12	13	Confirmed	Very rare breeder	Gadwall were recorded in association with the Windmill Reen and Yoke Reen north and south of Mead Lane, where breeding was confirmed on sight of recently fledged young in 2020 and 2023 both times within the reen bordering field 108.
Goldcrest <i>Regulus regulus</i>	Red (Wales)	7	5	Confirmed	Common breeding resident	Goldcrest were recorded in association with scrub and hedgerow across the Site. A peak count of 7 individuals consisting of a family unit with recently fledged young and an

						<p>additional 4 birds indicate that this species is breeding on Site.</p> <p>It is to be noted that wren were a new addition to the Welsh BoCC4 and as surveyors focused on notable species, it is possible that goldcrest were under-reported across the Site between 2019 and 2021.</p>
Grasshopper warbler <i>Locustella naevia</i>	Red (Wales), S42, Red (UK)	4	5	Probable	Uncommon breeding summer visitor	A handful of singing male grasshopper warbler were recorded within boundaries of fields within the Site, all records are from 2023. One singing male was recorded in the same boundary over multiple months and is assumed to be holding territory though breeding cannot be confirmed.
Green woodpecker <i>Picus viridis</i>	Amber (Wales)	1	8	Probable	Fairly common breeding resident	A low number recorded, 'probable' breeders from boundaries of 211, 366 and 381 with further records offsite.
Greenfinch <i>Chloris chloris</i>	Red (Wales), Red (UK)	5	15	Confirmed	Common breeding resident	Greenfinch are probable breeders in low numbers within the taller hedgerows and scrub throughout the Site. Confirmed to be breeding in the wider survey area with recently fledged young seen in boundaries around field 100 and 114.
Grey Heron <i>Ardea cinerea</i>	Amber (Wales)	8	20	Non-breeding	Fairly Common breeding resident	A grey heron with food was seen during 2023 surveys indicating breeding nearby, though no heronries were identified within the

						Site boundary. Grey herons were regularly seen as individuals or in very low numbers hunting with reens and occasionally grassland throughout the Site. Breeding of a low number of individual pairs was confirmed off-Site at Magor Marsh.
Greylag Goose <i>Anser anser</i>	Amber (UK)	6	4	Possible	Feral birds resident and breeding	Feral or naturalised birds were present in low numbers and mostly in flight only. Individual pairs were noted occupying suitable nesting habitat in Field 60.
Herring Gull <i>Larus argentatus</i>	Red (Wales), S42, Red (UK)	202	20	Non-breeding	Moderate numbers breeding mainly in industrial areas	Herring gull were recorded during all surveys, most commonly in low numbers or as individuals flying overhead or foraging in the fields. Less frequently, moderately sized flocks of birds (20-70) were seen flying overhead or foraging in the fields throughout the Site, moving between different fields depending on the time of year with no one field being favoured in particular. The largest flock recorded on the ground was 70 birds on 28/07/2020 in Field 92.
House Martin <i>Delichon urbicum</i>	Amber (Wales), Red (UK)	35	6	Non-breeding	Common breeding summer visitor	House martins were not recorded to be breeding on Site. All records were for foraging over the fields that comprise the Site.
House Sparrow <i>Passer domesticus</i>	Amber (Wales), S42,	120	20	Confirmed	Abundant breeding resident	House sparrow are confirmed breeders within site and are breeding within hedgerows throughout the

	Red (UK), LBAP					Site, particular where close to farm buildings and housing.
Kestrel <i>Falco tinnunculus</i>	Red (Wales), S42, Amber (UK), LBAP	5	15	Probable	Fairly common breeding resident	Kestrel are confirmed breeders within the Site as recently fledged young were seen during the survey conducted on 28 <sup>th</sup> July 2020 at Boundary 221 of Field 160 next to the coast. Breeding was considered probable in the mature trees near to Field 191. Other possible breeding locations are mature trees in association with Fields 365, 149, 367, 53, 66, 79, 380, 503, 48 and 173.
Kingfisher <i>Alcedo atthis</i>	Sch1, Annex 1	1	2	Possible	Uncommon breeding resident	There were two records of kingfisher during the breeding bird surveys, both registrations were from 2023 from reens associated with fields 124 and 504. Both times kingfisher were seen in suitable nesting habitat and are considered to be possible breeding on Site.
Lapwing <i>Vanellus vanellus</i>	Red (Wales), S42, Red (UK), LBAP	41	18	Confirmed	Resident but declining breeder	A total of 54 records accounting for 133 individual birds were recorded throughout the breeding bird surveys. There were 15 records of confirmed breeding lapwing within 10 fields of the Site. Where birds are recorded in the same field on subsequent surveys, they are considered to be the same pair. The records are for either an occupied nest, distraction

display or recently fledged young seen. Only one pair was recorded as confirmed breeding per field across all surveys.

Each field where breeding has been confirmed has only been occupied by a single pair, however on occasion the pairs were noted on multiple surveys within a survey season. Where confirmed nesting records were returned on multiple dates within the same season they are indicated below.

Confirmed breeding records:

Field 134	16/04/2020	
Field 124	11/05/2020	03/06/2020
Field 126	11/05/2020	26/05/2020
Field 173	12/05/2020	
Field 96	27/05/2020	04/06/2020
Field 105	03/06/2020	
Field 99	04/06/2020	
Field 95	16/05/2023	
Field 102	01/06/2023	16/06/2023
Field 211	01/06/2023	15/06/2023

						Lapwing were also recorded as 'probable' breeding in the following fields: 47, 57, 69, 76, 80, 129, 133, 136, 138, 139, 142, 192, and 365. These registrations refer to display flights (indicating a held territory) and lapwing occupying suitable habitat during the peak breeding season.
Lesser Black-backed Gull <i>Larus fuscus</i>	Red (Wales), Amber (UK)	190	20	Probable	Moderate numbers breeding mainly in industrial areas	Lesser black-backed gull were recorded during the majority of surveys, most commonly in low numbers or as individuals flying overhead or foraging in the fields. The peak count of birds includes a flock of 103 were recorded using a grassland field 67 on 08/04/2020. There were 97 records of lesser black-backed gull holding territory within grassland and arable fields across the site with no clear trend, this habitat is not typical nesting habitat for lesser black-backed gull which prefer spits, sandbars and small isolated islands separated from the mainland. Less frequently, moderately sized flocks of birds were seen flying overhead or foraging in the fields throughout the Site.
Linnet <i>Linaria cannabina</i>	Red (Wales), S42, Red (UK), LBAP	61	20	Confirmed	Common breeding resident	Linnets are confirmed as breeding within the hedgerows throughout the Site and flocking together in numbers

						of 10 to 25 later in the season. They were recorded during every survey.
Little Egret <i>Egretta garzetta</i>	Annex 1	14	15	Possible	Rare breeding resident	Little egret were recorded onsite on three occasions which includes a single occurrence where a flock of 13 flew over field 130. Single birds were seen twice during the breeding season with one record of 'possible' breeding in field 123. Little Egret were confirmed as breeding offsite at Magor Marsh, north of the Site, where a peak count of 14 birds was recorded.
Mallard <i>Anas platyrhynchos</i>	Amber (UK)	73	20	Confirmed	Fairly common breeder	Mallard are confirmed as breeding within the reens throughout the Site as occupied nests and family units with young were recorded, birds were also recorded within both arable and grassland fields.
Marsh Harrier <i>Circus aeruginosus</i>	Amber (Wales), Sch 1, Amber (UK), Annex 1	4	10	Non-breeding	Scarce breeding resident	Marsh harrier were recorded on a handful of surveys. Most records are for non-breeding registrations of a single individual in flight. One 'possible' breeding female was recorded as holding permanent territory within the Site during 2020 and 2023, though it is likely that this bird is breeding offsite, but territory overlaps with the Site.
Meadow Pipit <i>Anthus pratensis</i>	Red (Wales), Amber (UK)	26	10	Probable	Common breeding resident	Meadow pipit were recorded on half of the surveys. Most records are for birds in suitable nesting habitat.

Merlin Falco columbarius	Red (Wales), Sch 1, Red (UK), Annex 1	1	1	Non-breeding	Scarce breeding resident	One bird seen flying over the Site.
Mistle Thrush Turdus viscivorus	Amber (Wales), Red (UK)	11	14	Confirmed	Common breeding resident	Mistle thrush were recorded on most of the surveys during the survey season, mostly from within hedgerows that bound the fields. One record of recently fledged young indicates that the hedgerows surrounding the fields of this Site support breeding mistle thrush.
Moorhen Gallinula chloropus	Amber (UK)	14	10	Confirmed	Common breeding resident	Moorhen were recorded in association with reens across the Site, often in family groups with young. Moorhen nests were recorded on three separate surveys from reens associated with field 24, 186 and 189. Moorhen were recorded infrequently across the Site during 2019 -2021, however it is to be noted that moorhen were a new addition to the UK BoCC5 and surveyors focused on notable species, it is possible that moorhen were under-reported across the Site for this period.
Oystercatcher Haematopus ostralegus	Amber (Wales), Amber (UK)	7	10	Confirmed	Uncommon breeder	Oystercatcher were recorded a handful of times within the Site during the breeding bird surveys. The peak count comprises 4 individual birds within field 126 and an additional one in field 119. These records consist of a pair seen

						performing a distraction display, a bird occupying a nest, one bird visiting a possible nesting site and a bird showing agitated behaviour.
Peregrine Falco peregrinus	Sch 1, Annex 1	1	4	Non-breeding	Resident and winter visitor	Individual peregrine were recorded on four occasions within the Site boundary. In 2023 an individual was seen in fields 195 and 185, which are in close proximity, on subsequent surveys. Therefore this area was considered to form part of a permanent territory, however as there is no suitable breeding habitat present onsite, it is considered that peregrine are non-breeding.
Redstart Phoenicurus phoenicurus		Amber (UK)	1	3	Probable	Redstart were recorded on 3 occasions during the bird surveys. Records pertain to sightings between May and July 2023, as the records involve a singing male and a sighting within a potential nesting habitat, redstart are considered to be probable breeding.
Reed Bunting Emberiza schoeniclus	S42, Amber (UK)	6	17	Confirmed	Fairly Common breeding resident	Reed bunting were recorded during most of the surveys, mostly from within hedgerows, scrub and reed that bound the fields.
Shelduck <i>Tadorna tadorna</i>	Red (Wales), Amber (UK)	31	16	Probable	Uncommon breeder	Shelduck were recorded during a majority of the surveys. As most records of shelduck came from birds in grassland fields they are considered as being probable breeding. Their nests are cryptic as

						they use pre-made holes such as rabbit burrows or cavities in trees. There are 12 fields that are recorded as supporting 'probable' breeding shelduck, these are: 42, 47, 60, 64, 65, 82, 126, 137, 172, 173, 178 and 211
Skylark <i>Alauda arvensis</i>	Amber (Wales), S42, Red (UK), LBAP	41	20	Confirmed	Fairly Common to Common breeding Resident	Skylark were recorded 385 times across Site during the breeding bird surveys with a peak count of 15 individuals. There were 8 onsite records of confirmed nests from fields 19, 33, 48, 57, 126 and 135, with two records for fields 19 and 48. Singing males were recorded throughout the Site.
Snipe <i>Gallinago gallinago</i>	Amber (Wales), Amber (UK),	4	5	Probable	Uncommon breeder	Low numbers of snipe were recorded during the surveys throughout the breeding season. Snipe are cryptic birds that camouflage well in grassland and reed habitats, they make well-hidden nests in grassland. The behaviours of snipe that were recorded indicate that they are 'probable' breeders on Site, however, confirmed breeding cannot be ruled out due to their cryptic nature.
Song Thrush <i>Turdus philomelos</i>	S42, Amber (UK), LBAP	42	20	Confirmed	Common breeding resident	Song thrush were recorded during all of the surveys during the survey season, mostly from within hedgerows that bound the fields.

						Records of recently fledged young, nests and song thrushes carrying food indicates that the hedgerows surrounding the fields of this Site support breeding song thrush.
Starling <i>Sturnus vulgaris</i>	Red (Wales), S42, Red (UK), LBAP	140	18	Confirmed	Common breeding resident	Starling were recorded during the majority of the surveys during the survey season. Many records were of flocks in flight over the fields of the Site. Records of recently fledged young, nests and starling carrying food indicates that the Site supports breeding starling.
Stock Dove <i>Columba oenas</i>	Amber (UK)	25	13	Confirmed	Common breeding resident	Many records of stock dove were of flocks in flight over the fields of the Site. One record of a pair of stock doves carrying food indicates that the Site supports breeding stock dove.
Teal <i>Anas crecca</i>	Amber (Wales), Amber (UK)	10	4	Confirmed	Very rare breeder	Low numbers of teal were recorded within the reens surrounding fields across the Site. Teal are confirmed as breeding within the reen associated with field 191.
Wheatear <i>Oenanthe oenanthe</i>	Amber (Wales), Amber (UK)	3	3	Probable	Fairly common breeding summer visitor/ passage migrant	Primarily recorded on migration in April 2020, with a peak count of 3 on 09/04/2020.  A single record of a singing male within the hedgerow of field 106 in 2019 results in the classification of

						wheatear as 'probable' breeding status.
Whimbrel <i>Numenius phaeopus</i>	Amber (Wales), Sch 1, Red (UK)	56	6	Non-breeding	Common passage migrant	Typically recorded in low numbers associated with birds foraging within wet fields within the site boundary, with offsite records associated with the foreshore. The peak count of 56 was an unusual occurrence comprising 2 flocks in separate fields, recorded within the migratory period. Whimbrel are not considered to be breeding on Site. The Site is located outside of the breeding range of whimbrel which typically breed within much colder climates with the Shetland Islands being at the southern edge of their range.
Whitethroat <i>Sylvia communis</i>	Red (Wales), Amber (UK)	24	19	Confirmed	Common breeding summer visitor/ passage migrant	Whitethroat are confirmed as breeding within the hedgerows, reens, scrub and reedbed throughout the Site. Family unit flocks of up to 4 were seen later in the season. They were recorded during every survey.
Willow Warbler <i>Phylloscopus trochilus</i>	Red (Wales), Amber (UK)	11	13	Probable	Common breeding summer visitor	Willow warbler are 'probable' breeding within the hedgerows throughout the Site. The majority of records were for singing males within suitable nesting habitat. Willow warbler were recorded during most surveys.

Wood Pigeon <i>Columba palumbus</i>	Amber (UK)	N/A	N/A	Assumed possible	Abundant breeding resident and winter visitor	It is to be noted that wood pigeon were a new addition to the UK BoCC5 and as surveyors focused on notable species, wood pigeon were not recorded. Give the habitats present on Site and wood pigeon breeding behaviour, it cannot be ruled out that they are breeding onsite.
Wood Warbler <i>Phylloscopus sibilatrix</i>	Red (Wales), S42, Red (UK), LBAP	1	1	Non-breeding	Fairly common summer visitor	There was one record of wood warbler (singing male) from within the Site during 2019. This species is not considered to be breeding within the Site as they nest typically within established broadleaved oak woodlands which are not present on Site.
Wren <i>Troglodytes troglodytes</i>	Amber (UK)	17	5	Confirmed	Abundant breeding resident	Wren were recorded in association with scrub and hedgerow across the Site.  Wren were not a target species during 2019 -2021, as they were not a notable species at this time. However, an incidental record from 2019 of a recently fledged wren confirm that the Site is used by breeding wren.  It is to be noted that wren were a new addition to the UK BoCC5 and as surveyors focused on notable species, it is possible that wren were

						under-reported across the Site between 2019 and 2021.
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<sup>1</sup> Woodpigeon were not a target species during the surveys and so no records are available, however, given the abundance of this species, the habitats present on Site, and woodpigeon's breeding habitat, it is not possible to classify woodpigeon as a non-breeding species.

## Species accounts

### *Schedule 1 species*

- 9.3.18 There were eleven records of barn owl during the breeding bird surveys including four records of confirmed breeding in 2023, within a nestbox and barn in Field 35 and 133 respectively, with additional barn owl sightings flying or foraging within fields within the Site. For the locations of records and confirmed nest sites see **Figure 9.2.2**.
- 9.3.19 Marsh harrier records across the Site were mostly of birds in flight. Due to the breeding habitat of marsh harriers, it is assumed that they are holding permanent territory that encompasses the Site, but are not nesting within the Site boundary.
- 9.3.20 Kingfisher were recorded twice during the breeding bird surveys, both registrations were from 2023 from reens associated with Fields 124 and 504. Both times kingfisher were seen in suitable nesting habitat and are considered to be possible breeding on Site. The locations of these records are shown in **Figure 9.2.6**.
- 9.3.21 Peregrine were recorded four times across the surveys, they are considered to be a resident in the area holding permanent territory but breeding offsite.
- 9.3.22 Cetti's warbler were widespread across the Site with 247 records, with one confirmed breeding on Site in Field 503 during 2023. Other records mainly comprised singing males; this species is likely to be breeding at numerous locations across the Site, however, it is cryptic and nests within scrub next to water and therefore confirming breeding is difficult. **Figure 9.2.6** shows the reens where Cetti's warbler were recording, giving an indicative distribution across the Site.
- 9.3.23 Merlin were only recorded once on site and are not considered to be breeding on Site.

### *Ramsar species*

- 9.3.24 The Ramsar designation does not currently cover any breeding birds. Lesser black-backed gull are cited under future consideration.
- 9.3.25 Lesser-black backed gull was recorded frequently in the breeding bird surveys with

a total of 335 records though two-thirds of them were of birds in flight. This gull does use approximately half the fields on Site for foraging and loafing in low-moderate numbers, including immature non-breeding individuals, but were not recorded breeding. The field use by lesser-black backed gulls in 2019, 2020 and 2023 are shown in **Figures 9.2.3, 9.2.4 and 9.2.5** respectively.

- 9.3.26 The Ramsar citation states that the Severn Estuary supports 4167 apparently occupied nests representing an average of 2.8% of the breeding population. The Site peak of 172 birds (excluding birds in flight) is 4.1% of this figure, although none are recorded as breeding.

### Waterbirds

- 9.3.27 Lapwing were recorded 89 times in the surveys, of which 15.7% of the records of lapwing are for birds in flight. Lapwing was confirmed as breeding in both 2020 and 2023, fields and dates are included within **Figure 9.2.5**.
- 9.3.28 Curlew were recorded 27 times in the surveys of which just under half were birds in flight. This species may have bred (or at least attempted to) in Field 137 adjacent to the estuary, but this could not be confirmed.
- 9.3.29 Oystercatcher were recorded 18 times in the surveys with confirmed breeding in 2020 in Fields 108, 123 and 126. Oystercatcher were recorded as 'probable' breeders in 2023, with records from Field 95, 102, 105 and 177.
- 9.3.30 **Figure 9.2.1** shows the locations of lapwing, curlew and oystercatcher records by year, and the locations where breeding was confirmed.
- 9.3.31 Shelduck were recorded 73 times, of which 46 recordings were of birds in flight. Breeding could not be confirmed as this bird nests underground in disused rabbit burrows and the nests can be difficult to spot. Shelduck breeding on site cannot be ruled out and are categorised as "probable" breeding as there were records of courtship displays and of birds visiting potential or probable nest sites, a list of fields is included in **Table 9B-5** .

### Other ground-nesting species

- 9.3.32 Meadow pipit were recorded 37 times during the breeding bird surveys of which five

were of birds in flight. Behaviours recorded in the surveys were indicative of breeding, but this could not be confirmed, and this species is a 'probable' breeder on Site.

- 9.3.33 Skylark males are very conspicuous when displaying and this species was recorded 385 times across all surveys and from the majority of fields. Breeding on site was confirmed by the presence of recently fledged young and in three cases by observations of occupied nests.
- 9.3.34 A full list of species recorded during BBS survey and their breeding and conservation status is given in **Annex C**.

#### Reen species

- 9.3.35 Notable reen-nesting species were recorded throughout the breeding bird surveys; confirmed breeding birds include mallard, moorhen and mute swan.
- 9.3.36 Mallard were recorded in association with most reens within the Site, with a peak count of 73 birds recorded on one day. Mallard were recorded with downy young, nests and in family units on 27 separate occasions across the three survey years.
- 9.3.37 Moorhen records were from the reens within the Site, with a peak count of 14 birds recorded on one day. Moorhen nests and recently fledged young were recorded on 15 separate occasions across the three survey years.
- 9.3.38 Mute swan were recorded in association with most reens within the Site, with a peak count of 16 birds recorded on one day. Mute swan were recorded with downy young, and occupied nests on 17 separate occasions across the three survey years.

#### Hedgerow species

- 9.3.39 The breeding bird surveys found a number of hedgerow species to be utilising the habitats on Site for nesting or as a foraging resource whilst breeding. A total of thirteen notable hedgerow species were recorded as possible, probable or confirmed breeding within the breeding bird surveys.
- 9.3.40 Bullfinch were recorded in low numbers across the Site, there was a peak of 6 individuals seen on any one day. Bullfinch are confirmed breeding in low numbers

on the Site within the hedgerows and scrub.

- 9.3.41 Dunnock are a widespread and common breeding bird across the UK and Wales, there was a peak of 18 birds seen across the Site on any one day and are considered to be confirmed breeding within hedgerows and scrub on the Site.
- 9.3.42 Greenfinch were recorded in low numbers using the hedgerows and fields across the Site. There was a peak of 5 individuals seen on any one day and are confirmed breeding in low numbers.
- 9.3.43 House sparrow were recorded across the Site, typically in association with hedgerows, scrub and neighbouring farm buildings. Larger flocks were often seen in the later months of each survey year, with flocks of up to 30 birds contributing to a maximum peak of 120 recorded on a single day. House sparrows are confirmed breeding on Site.
- 9.3.44 Linnet typically found breeding in hedgerow and scrub surrounding arable cropland, the Site supported a peak of 61 individuals and linnet have been recorded as confirmed breeding on Site.
- 9.3.45 Long-tailed tit are a widespread and common breeding bird across the UK and Wales, there was a peak of 14 birds seen on one occasion across the Site and are considered to be confirmed breeding across the hedgerow and scrub habitats within the Site.
- 9.3.46 Mistle thrush were recorded in low numbers with a peak of 11 birds seen on one occasion with only one record of confirmed breeding on Site accounts for a sighting of recently fledged young within a hedgerow of the Site.
- 9.3.47 Reed bunting typically pick nest sites that are near to water, including scrub, reedbed and hedgerows. The reens associated with hedgerows and reedbeds present on Site provide suitable nesting habitats for this species. Reed bunting were recorded as confirmed breeding and a peak count of 6 individuals were recorded throughout the surveys.
- 9.3.48 Song thrush are considered to be breeding on Site in low numbers as birds carrying food or faecal sacs were recorded within the boundaries of the fields within the Site.

Song thrush were typically recorded in numbers of up to 7-8 per survey with a peak of 42 being an unusual occurrence that included a non-breeding flock of 21.

- 9.3.49 Whitethroat were seen across the surveys with family units in the June and July surveys of each year. Whitethroat generally nest in hedgerow and scrub associated with farmland and grasslands, the Site offers plenty suitable habitat for this species. A peak count of 24 birds with 14 registrations of confirmed breeding across the surveys.
- 9.3.50 Willow warbler are a widespread and common breeding bird across the UK and Wales, typically nesting close to the ground near scrub and hedgerows. Willow warbler were recorded in ones and twos across the Site, the peak of 11 birds was unusual but accounted for 3 records of singing male from suitable hedgerow habitats. Willow warbler are considered to be probable breeding on Site.
- 9.3.51 Wood warbler were recorded once on Site from within a hedgerow of a singing male. Although breeding behaviour was observed, this species is not considered to be using the Site as they choose sites with mature broadleaved woodland with an open understorey, which is not present within the Site. The record is also from May which is a key month for migratory birds such as wood warbler to arrive in the UK.
- 9.3.52 Wren were only consistently recorded on surveys during 2023 due to their addition to the UK BoCC5 list as they were absent from the UK BoCC4 and Welsh BoCC3. A peak count of 17 individuals were recorded on any one day, and they are considered to be 'probable' breeding on site, however, due to their abundance within the UK and Wales and lack of records during the first two years of data collection, confirmed breeding cannot be ruled out. During the 2019 surveys there were two records of wren, even though they were not a target species. One of these records was of recently fledged young, raising the breeding status of wren to 'confirmed'.

## 9.4 References

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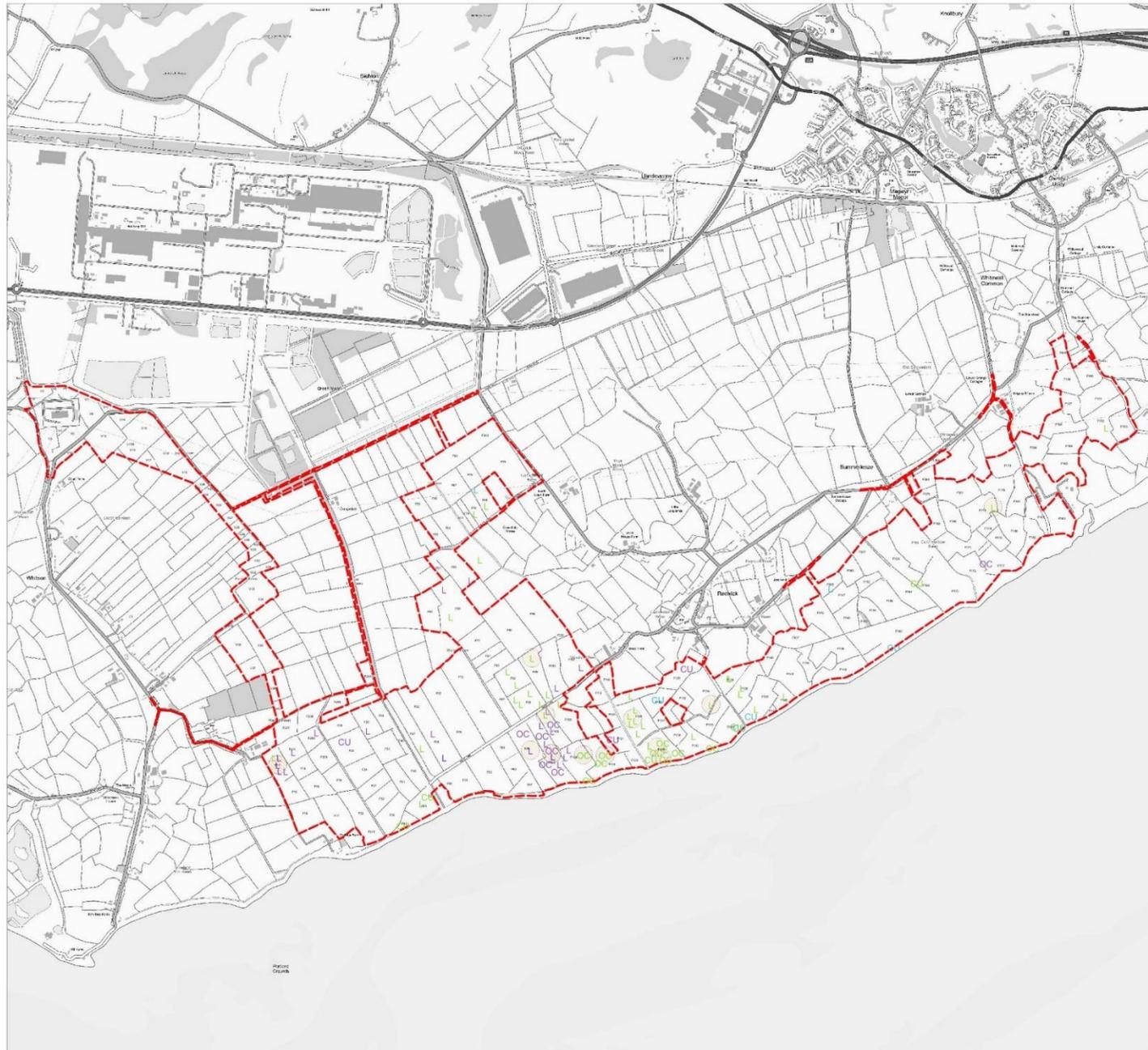
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## Annex A: Figures



**Key:**

Site Boundary Oct 2024

Curlew Records

CU 2019

CU 2020

CU 2023

Lapwing Records

L 2019

L 2020

L 2023

Oystercatcher Records

OC 2019

OC 2020

OC 2023

Ground Nesting Wader Territories

Lapwing Territories

Oystercatcher Territories

Points represent records and do not indicate the number of individuals.



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**Figure 9.2.1:**  
Breeding Bird Survey Results: Ground Nesting Waders

**Project:**  
Future Energy Llanwern

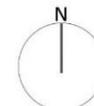
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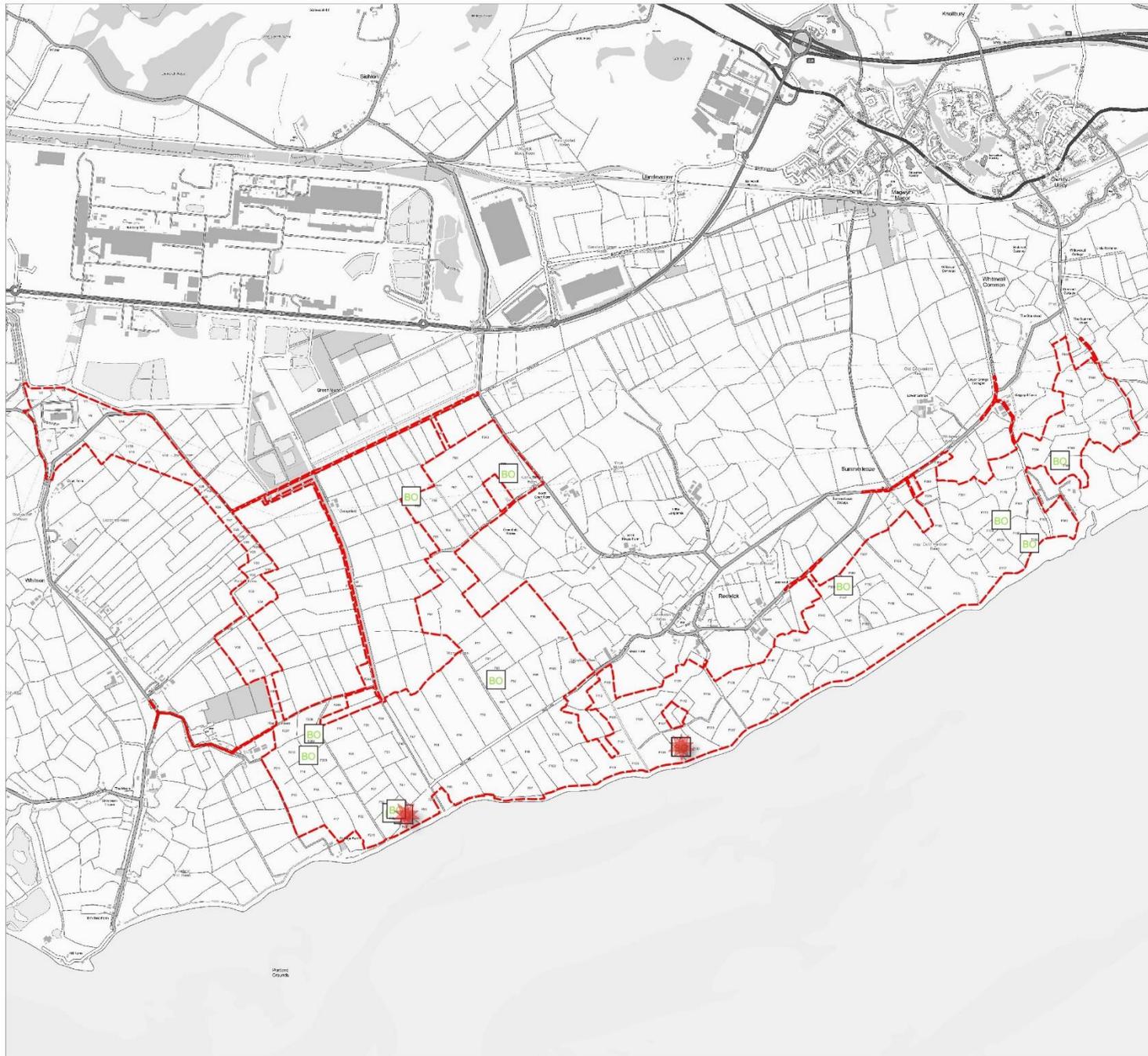
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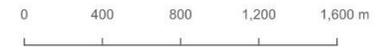
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**Key:**

-  Site Boundary
-  Confirmed Barn Owl Nesting Sites
-  Barn Owl Records 2019-2023



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**Figure 9.2.2:**  
Breeding Bird Survey Results: Barn Owl

**Project:**  
Future Energy Llanwern

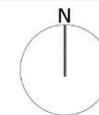
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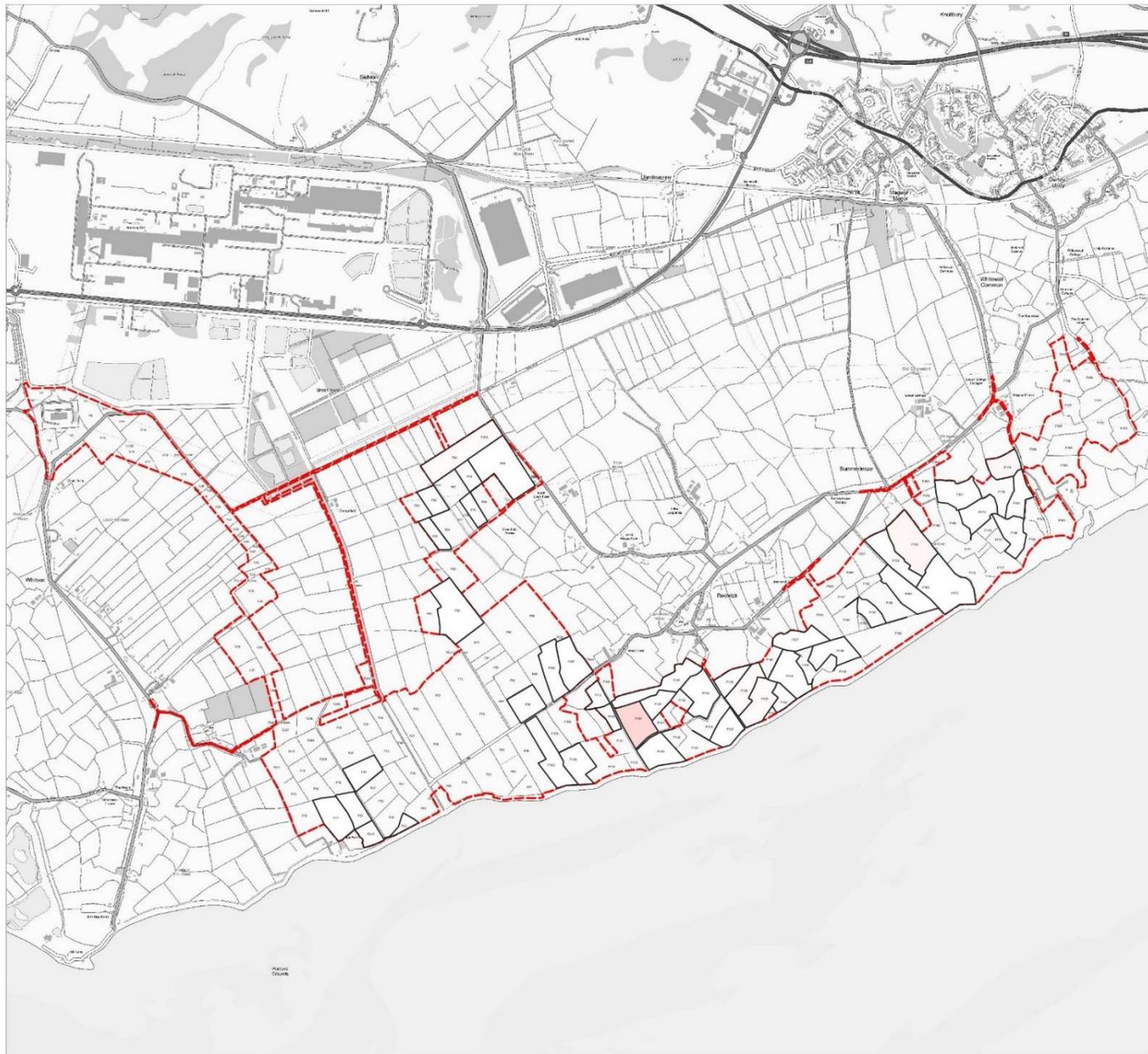
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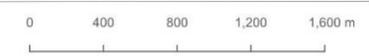
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**Key:**

- Site Boundary
- Number of Lesser Black-backed Gull Records per Field
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5
- 5 - 6
- 19 - 20



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**Figure 9.2.3:**  
Breeding Bird Survey Results: Lesser Black-backed Gull 2019

**Project:**  
Future Energy Llanwern

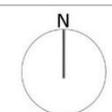
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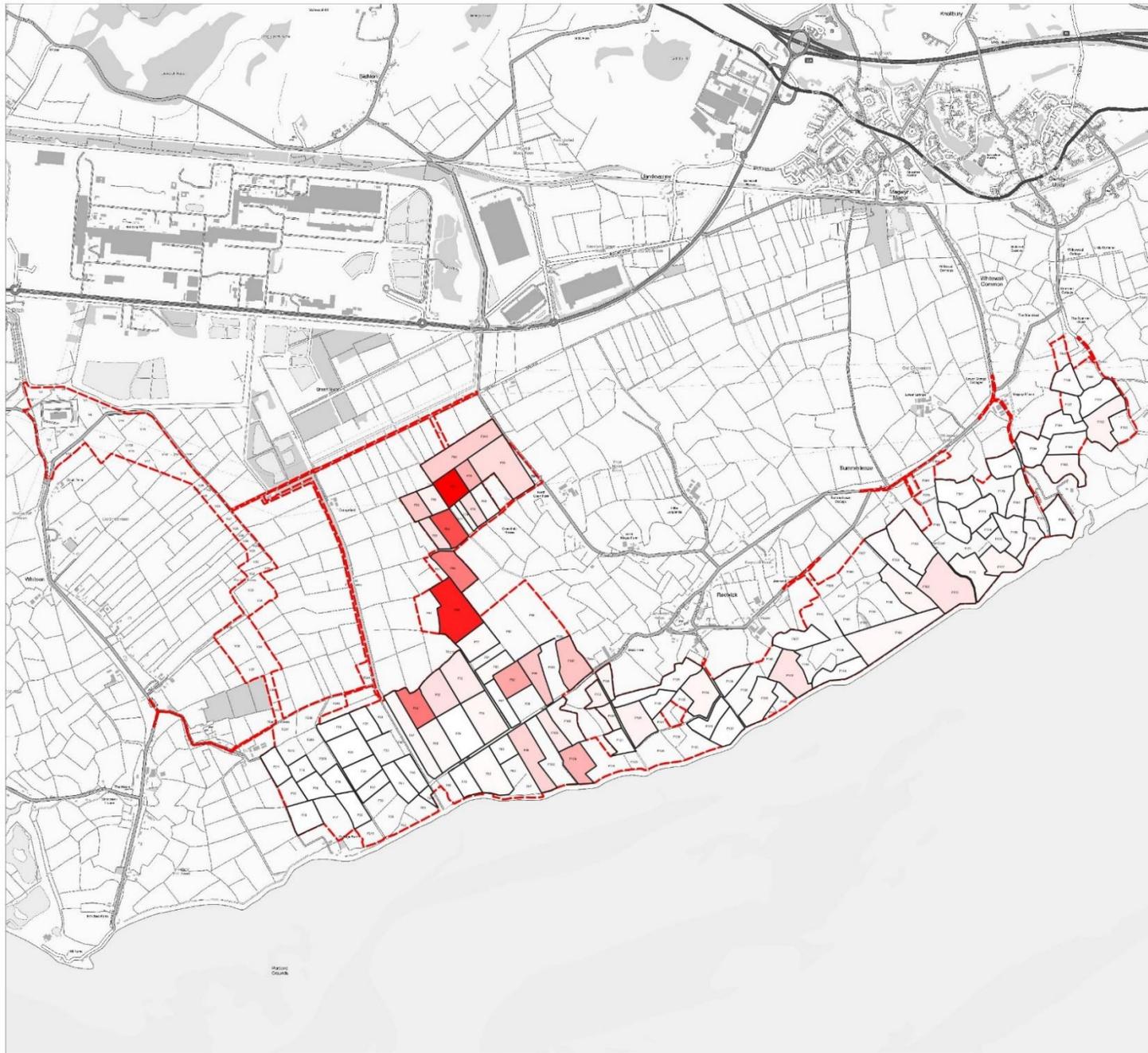
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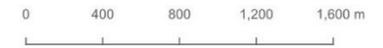
**Revision:**  
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**Key:**

Site Boundary	16 - 17
<b>Number of Lesser Black-backed Gull Records per Field</b>	20 - 21
1 - 2	23 - 24
2 - 3	25 - 26
3 - 4	26 - 27
4 - 5	27 - 28
5 - 6	35 - 36
6 - 7	40 - 41
7 - 8	59 - 60
9 - 10	61 - 62
11 - 12	80 - 81
13 - 14	102 - 103
15 - 16	115 - 116



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**Figure 9.2.4:**  
Breeding Bird Survey Results: Lesser Black-backed Gull 2020

**Project:**  
Future Energy Llanwern

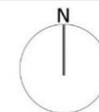
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Future Energy Llanwern Limited

**Date:**  
23/10/2025

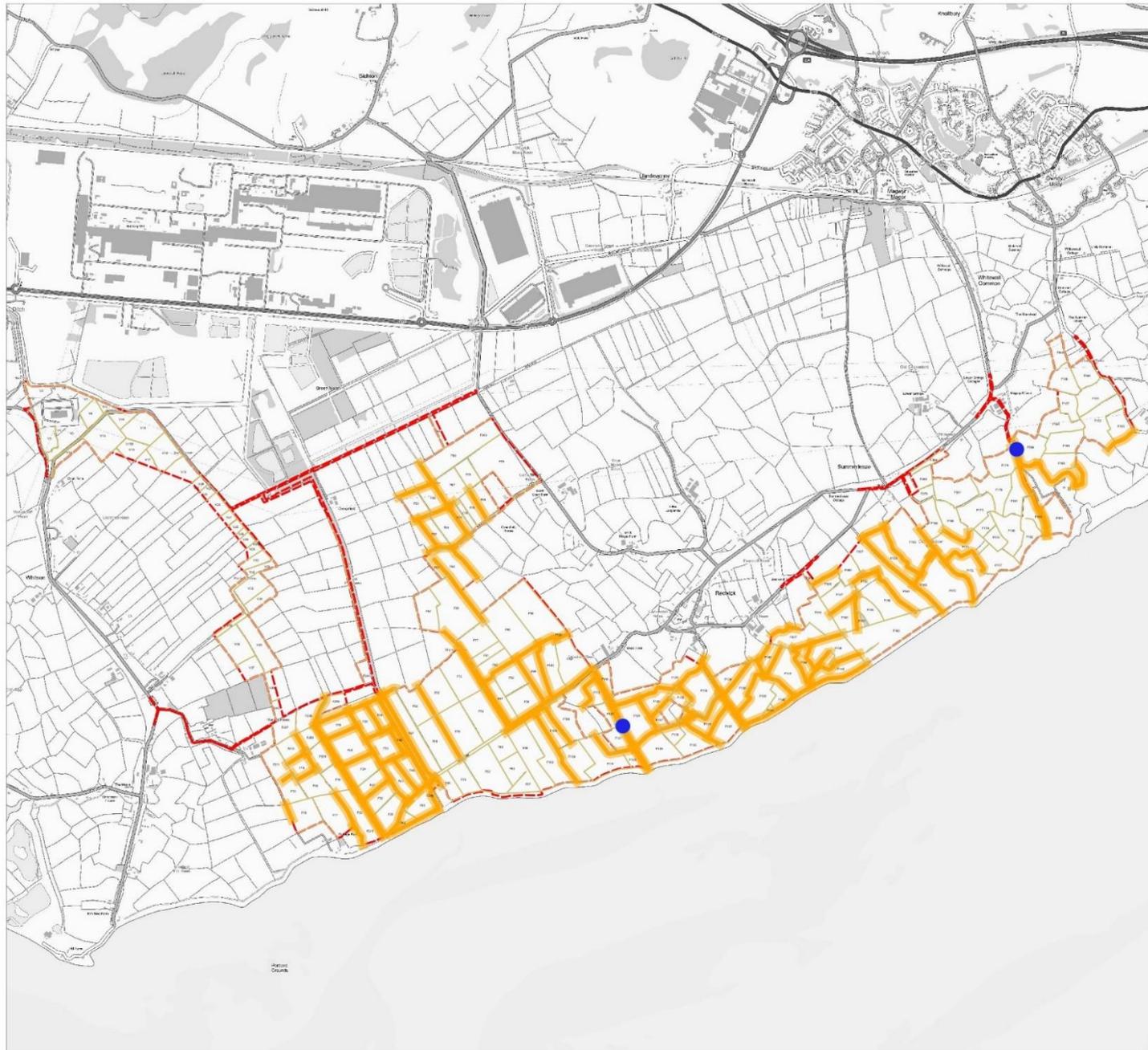
**Drawn:**  
JH

**Ref:**  
0840-ETA-9.2.4

**Revision:**  
-







**Key:**

- Site Boundary
- Boundary Features with Cetti's Warbler Presence
- Kingfisher Records



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**Figure 9.2.6:**  
Breeding Bird Survey Results: Cetti's Warbler & Kingfisher

**Project:**  
Future Energy Llanwern

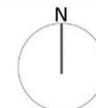
**Client:**  
Future Energy Llanwern Limited

**Date:**  
24/10/2025

**Drawn:**  
JH

**Ref:**  
0840-ETA-9.2.6

**Revision:**  
-



## Annex B: Breeding Bird Survey details and weather conditions

Survey Number	Section Number	Date	Start Time	Finish Time	Sunrise	Sunset	Temperature (°C) start	Temperature (°C) finish	Wind Speed (BFS) start	Wind Speed (BFS) finish	Wind Direction start	Wind Direction finish	Cloud (oktas) start	Cloud (oktas) finish	Precipitation start	Precipitation finish	Visibility start	Visibility finish
1	1, 2, 3, 4, 5	10-04-19	06:45	12:15	06:27	19:59	05	10	1-2	3	NE	NE	8	3	None	None	>2km	>2km
1	6, 7, 8, 9, 10, 11	11-04-19	07:00	11:45	06:25	20:01	01	12	1	1	NE	W	0	2	None	None	>2km	>2km
2	2, 3, 4, 5, 10	09-05-19	06:30	11:10	05:30	20:47	11	10	1	1	SW	SW	7	8	None	None	1km	1-2km
2	6, 7, 8, 9, 11	10-05-19	06:00	10:45	05:28	20:49	06	13	0	0	NE	SW	6	4	None	None	>2km	>2km
2	9, 10	24-05-19	05:45	06:45	05:08	21:10	12	13	1	1	NE	N	-	-	None	None	>2km	>2km
3	2, 3, 4, 5, 6	20-05-19	17:00	21:00	05:13	21:04	21	15	2	1	WNW	WNW	4	4	None	None	>2km	>2km
3	1, 7, 8, 9, 10, 11	22-05-19	17:00	21:00	05:10	21:07	20	15	1-2	1-2	W	W	2	1	None	None	>2km	1km
4	7, 9, 10, 11	19-06-19	06:15	10:15	04:53	21:32	13	14	2-3	1	NW	NW	8	8	None	None	1km	1km
4	1, 2, 6	22-06-19	06:00	10:30	04:54	21:33	08	14	0	0	NE	NE	1	0	None	None	>2km	>2km
4	3, 8	23-06-19	06:00	10:00	04:54	21:33	11	18	2	2	ENE	ENE	4	4	None	None	>2km	>2km
4	4, 5	28-06-19	06:00	10:00	04:56	21:33	13	18	5	5	ENE	ENE	3	1	None	None	>2km	>2km
5	2, 3, 4, 5, 6, 7	08-04-20	06:30	10:45	06:30	19:57	09	17	1	1	NE	NE	6	5	None	None	1-2km	>2km
5	8, 9, 10, 11, 12, 13	09-04-20	06:30	10:30	06:28	19:59	04	14	0	0	E	NE	2	3	None	None	1-2km	1-2km

Survey Number	Section Number	Date	Start Time	Finish Time	Sunrise	Sunset	Temperature (°C) start	Temperature (°C) finish	Wind Speed (BFS) start	Wind Speed (BFS) finish	Wind Direction start	Wind Direction finish	Cloud (oktas) start	Cloud (oktas) finish	Precipitation start	Precipitation finish	Visibility start	Visibility finish
6	2, 3, 4, 5, 6, 7	16-04-20	06:30	10:45	06:13	20:11	07	15	1	2	ENE	ENE	3	5	None	None	1-2km	1-2km
6	8, 9, 10, 11, 12, 13	17-04-20	06:30	10:30	06:11	20:12	04	14	2	2	ENE	ENE	7	7	None	None	>2km	>2km
7	2, 3, 4, 5, 7	11-05-20	06:00	10:15	05:25	20:52	04	09	3	4	NNE	NE	1	4	None	None	>2km	>2km
7	8, 9, 10, 11, 12, 13	12-05-20	06:00	10:45	05:23	20:53	01	09	0	1	NE	NE	1	1	None	None	1-2km	>2km
7	6	18-05-20	06:00	10:00	05:15	21:02	11	16	0	3	W	W	2	3	None	None	>2km	>2km
8	2, 3, 4, 5, 6, 7	26-05-20	17:30	21:30	05:05	21:13	21	18	2	1	W	W	1	2	None	None	>2km	>2km
8	8, 9, 10, 11, 12	27-05-20	17:15	21:30	05:04	21:14	24	20	2	1	NE	ENE	1	1	None	None	>2km	>2km
9	2, 3, 4, 5, 6, 7	03-06-20	06:00	10:00	04:58	21:22	14	15	1	1	NNW	N	8	8	None	Drizzle	>2km	1-2km
9	8, 9, 10, 11, 12, 13	04-06-20	06:00	10:00	04:57	21:23	09	15	1-2	2	N	N	7	7	None	None	>2km	>2km
10	2, 3, 4, 6, 7, 9	22-06-20	06:00	10:00	04:54	21:33	11	17	3	3	SSW	S	5	4	None	None	>2km	>2km
10	5, 7, 8, 11, 12	23-06-20	06:00	10:15	04:54	21:33	12	19	2	2	SSW	SSW	1	1	None	None	>2km	>2km
11	2, 3, 6, 7, 9	07-07-20	06:00	10:00	05:03	21:29	13	17	2	3	WSW	WSW	4	7	None	None	>2km	>2km
11	5, 8, 10, 12, 13	10-07-20	06:00	10:00	05:06	21:27	10	15	1-2	1-2	NW	NW	3	5	None	None	>2km	>2km

Survey Number	Section Number	Date	Start Time	Finish Time	Sunrise	Sunset	Temperature (°C) start	Temperature (°C) finish	Wind Speed (BFS) start	Wind Speed (BFS) finish	Wind Direction start	Wind Direction finish	Cloud (oktas) start	Cloud (oktas) finish	Precipitation start	Precipitation finish	Visibility start	Visibility finish
11	4, 11	11-07-20	06:00	09:30	05:07	21:26	08	14	1	1	NW	NW	1	1	None	None	>2km	>2km
12	5, 6, 8, 10, 11, 12	28-07-20	06:00	10:40	05:30	21:05	12	16	2	2	W	W	5	5	None	None	>2km	>2km
12	2, 3, 4, 7, 9, 13	29-07-20	06:00	10:00	05:31	21:04	10	15	1	1-2	W	WSW	1	2	None	None	>2km	>2km

### Weather Station Data for 2023 Surveys

Survey Number	Date	Start Time	Barometer	Temperature	Wind Speed	Wind Direction	Wind Run	High Wind Speed	High Wind Direction	Wind Chill	Heat Index	THW Index	Rain
13	03/04/2023	06:00	1025,8	7,8	3,0	ENE	0,25	8,0	ENE	7,4	7,8	7,4	0,0
	04/04/2023	06:00	1016,0	7,7	5,0	NE	0,42	10,0	ENE	6,3	7,8	6,4	0,0
14	07/04/2023	07:00	1021,3	2,3	1,0	NW	0,08	3,0	NW	2,3	2,3	2,3	0,0
15	09/05/2023	07:20	1012,1	12,1	7,0	WSW	0,58	10,0	WSW	10,9	12,3	11,1	0,0
16	19/05/2023	04:45	1027,4	8,8	0,0		0,00	0,0		8,8	8,9	8,9	0,0
17	01/06/2023	05:15	1026,0	9,9	0,0		0,00	0,0		9,9	10,0	10,0	0,0
	02/06/2023	05:15	1025,5	10,3	0,0		0,00	0,0		10,3	10,3	10,3	0,0
18	15/06/2023	05:00	1019,7	12,4	0,0		0,00	0,0		12,4	12,5	12,5	0,0
	16/06/2023	05:00	1019,3	11,4	0,0		0,00	0,0		11,4	11,5	11,5	0,0
19	10/07/2023	05:15	1019,3	15,2	0,0		0,00	0,0		15,2	15,4	15,4	0,0
	11/07/2023	05:15	1009,5	16,1	0,0		0,00	0,0		16,1	16,4	16,4	0,0
20	19/07/2023	05:30	1014,7	14,7	0,0		0,00	0,0		14,7	14,9	14,9	0,0
	20/07/2023	05:30	1017,1	7,1	0,0		0,00	0,0		7,1	7,1	7,1	0,0

[Collection of wind speed and direction failed on surveys 16-20 due to equipment failure.](#)

# Annex C: Breeding Birds Status Summary

All birds and their breeding status recorded during breeding bird surveys during April to July 2019, 2020, and 2023

British (English) Vernacular Name	Scientific Name	Breeding Status	BoCC5 (UK)			BoCC4 (Wales)			Local BAP Species	WCA Sch. 1	Birds Directive Annex I	SPI under Environment (Wales) Act Section 7
			Red	Amber	Green	Red	Amber	Green				
Barn Owl	<i>Tyto alba</i>	Confirmed			✓				✓			
Blackbird	<i>Turdus merula</i>	Confirmed			✓			✓				
Blackcap	<i>Sylvia atricapilla</i>	Confirmed			✓			✓				
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	Non-breeding		✓		✓					✓	
Blue Tit	<i>Cyanistes caeruleus</i>	Confirmed			✓			✓				
Bullfinch	<i>Pyrrhula pyrrhula</i>	Confirmed		✓			✓	✓			✓	
Buzzard	<i>Buteo buteo</i>	Confirmed			✓			✓				
Canada Goose	<i>Branta canadensis</i>	Confirmed			✓			✓				
Carrion Crow	<i>Corvus corone</i>	Confirmed			✓			✓				
Cetti's Warbler	<i>Cettia cetti</i>	Confirmed			✓			✓	✓			
Chaffinch	<i>Fringilla coelebs</i>	Confirmed			✓		✓					
Chiffchaff	<i>Phylloscopus collybita</i>	Confirmed			✓			✓				
Coal Tit	<i>Parus ater</i>	Confirmed			✓		✓					
Collared Dove	<i>Streptopelia decaocto</i>	Confirmed			✓			✓				
Common Crossbill	<i>Loxia curvirostra</i>	Non-Breeding			✓			✓	✓			
Common Gull	<i>Larus canus</i>	Non-Breeding	✓				✓					
Redstart	<i>Phoenicurus phoenicurus</i>	Possible		✓				✓				
Common Sandpiper	<i>Actitis hypoleucos</i>	Non-Breeding		✓			✓					
Coot	<i>Fulica atra</i>	Confirmed			✓		✓					
Cormorant	<i>Phalacrocorax carbo</i>	Non-breeding			✓			✓				
Cuckoo	<i>Cuculus canorus</i>	Probable	✓			✓		✓			✓	
Curlew	<i>Numenius arquata</i>	Probable	✓			✓		✓			✓	
Dunlin	<i>Calidris alpina</i>	Non-Breeding	✓			✓				✓		
Dunnock	<i>Prunella modularis</i>	Confirmed		✓			✓	✓			✓	
Fieldfare	<i>Turdus pilaris</i>	Non-Breeding	✓				✓		✓			
Gadwall	<i>Anas strepera</i>	Confirmed		✓								
Garden Warbler	<i>Sylvia borin</i>	Confirmed			✓		✓					
Goldcrest	<i>Regulus regulus</i>	Confirmed				✓						
Goldfinch	<i>Carduelis carduelis</i>	Confirmed			✓			✓				
Grasshopper Warbler	<i>Locustella naevia</i>	Probable	✓			✓		✓			✓	

Great Black-backed Gull	<i>Larus ichthyaetus</i>	Non-Breeding	✓			✓				
Great Spotted Woodpecker	<i>Dendrocopos major</i>	Confirmed			✓		✓			
Great Tit	<i>Parus major</i>	Confirmed			✓		✓			
Great White Egret	<i>Ardea alba</i>	Unknown		✓			✓			✓
Green Woodpecker	<i>Picus viridis</i>	Probable			✓		✓			
Greenfinch	<i>Chloris chloris</i>	Confirmed	✓			✓				
Grey Heron	<i>Ardea cinerea</i>	Possible			✓		✓			
Greylag Goose	<i>Anser anser</i>	Probable		✓				✓		
Herring Gull	<i>Larus argentatus</i>	Non-breeding	✓				✓		✓	
House Martin	<i>Delichon urbicum</i>	Non-breeding		✓						
House Sparrow	<i>Passer domesticus</i>	Confirmed	✓				✓		✓	
Jackdaw	<i>Corvus monedula</i>	Confirmed			✓			✓		
Jay	<i>Garrulus glandarius</i>	Confirmed			✓			✓		
Kestrel	<i>Falco tinnunculus</i>	Possible		✓		✓				✓
Kingfisher	<i>Alcedo atthis</i>	Possible			✓			✓		✓
Lapwing	<i>Vanellus vanellus</i>	Confirmed	✓			✓				✓
Lesser Black-backed Gull	<i>Larus fuscus</i>	Non-breeding		✓		✓				
Lesser Whitethroat	<i>Sylvia curruca</i>	Confirmed			✓			✓		
Linnet	<i>Carduelis cannabina</i>	Confirmed	✓			✓			✓	
Little Egret	<i>Egretta garzetta</i>	Confirmed			✓			✓		✓
Little Grebe	<i>Tachybaptus ruficollis</i>	Confirmed			✓			✓		
Little Owl	<i>Athene noctua</i>	Confirmed			✓			✓		
Long-eared Owl	<i>Asio otus</i>	Non-Breeding			✓			✓		
Long-tailed Tit	<i>Aegithalos caudatus</i>	Confirmed			✓			✓		
Magpie	<i>Pica pica</i>	Confirmed			✓			✓		
Mallard	<i>Anas platyrhynchos</i>	Confirmed		✓				✓		
Marsh Harrier	<i>Circus aeruginosus</i>	Non-Breeding		✓				✓		✓
Meadow Pipit	<i>Anthus pratensis</i>	Possible		✓		✓				
Merlin	<i>Falco columbarius</i>	Non-Breeding	✓			✓			✓	✓
Mistle Thrush	<i>Turdus viscivorus</i>	Confirmed	✓					✓		
Moorhen	<i>Gallinula chloropus</i>	Confirmed		✓				✓		
Mute Swan	<i>Cygnus olor</i>	Confirmed			✓			✓		
Nuthatch	<i>Sitta europaea</i>	Confirmed			✓			✓		
Oystercatcher	<i>Haematopus ostralegus</i>	Confirmed		✓				✓		
Peregrine	<i>Falco peregrinus</i>	Non-Breeding			✓			✓		✓
Pheasant	<i>Phasianus colchicus</i>	Confirmed			✓			✓		
Pied Wagtail	<i>Motacilla alba</i>	Confirmed			✓			✓		
Raven	<i>Corvus corax</i>	Confirmed			✓			✓		

Red-legged Partridge	<i>Alectoris rufa</i>	Confirmed		✓		✓			
Reed Bunting	<i>Emberiza schoeniclus</i>	Confirmed		✓		✓	✓		✓
Reed Warbler	<i>Acrocephalus scirpaceus</i>	Confirmed			✓	✓			
Ringed Plover	<i>Charadrius hiaticula</i>	Non-Breeding	✓		✓		✓		✓
Robin	<i>Erithacus rubecula</i>	Confirmed			✓		✓		
Rook	<i>Corvus frugilegus</i>	Non-breeding		✓		✓			
Sand Martin	<i>Riparia riparia</i>	Non-Breeding			✓		✓		
Shelduck	<i>Tadorna tadorna</i>	Probable		✓		✓			
Skylark	<i>Alauda arvensis</i>	Confirmed	✓			✓	✓		✓
Snipe	<i>Gallinago gallinago</i>	Possible		✓		✓			
Song Thrush	<i>Turdus philomelos</i>	Confirmed		✓			✓	✓	✓
Sparrowhawk	<i>Accipiter nisus</i>	Non-Breeding		✓			✓		
Starling	<i>Sturnus vulgaris</i>	Confirmed	✓			✓		✓	✓
Stock Dove	<i>Columba oenas</i>	Confirmed		✓			✓		
Stonechat	<i>Saxicola rubicola</i>	Confirmed			✓		✓		
Swallow	<i>Hirundo rustica</i>	Confirmed			✓		✓		
Swift	<i>Apus apus</i>	Non-Breeding	✓			✓			
Teal	<i>Anas crecca</i>	Confirmed		✓			✓		
Tree Sparrow	<i>Passer montanus</i>	Non-Breeding	✓			✓		✓	✓
Treecreeper	<i>Certhia familiaris</i>	Non-Breeding			✓		✓		
Water Rail	<i>Rallus aquaticus</i>	Possible			✓		✓		
Wheatear	<i>Oenanthe oenanthe</i>	Probable		✓			✓		
Whimbrel	<i>Numenius phaeopus</i>	non-breeding	✓				✓		✓
Whinchat	<i>Saxicola rubetra</i>	Non-Breeding	✓			✓			
Whitethroat	<i>Sylvia communis</i>	Confirmed		✓		✓			
Willow Warbler	<i>Phylloscopus trochilus</i>	Probable		✓		✓			
Wood Warbler	<i>Phylloscopus sibilatrix</i>	Non-Breeding	✓			✓		✓	✓
Woodpigeon	<i>Columba palumbus</i>	Considered breeding		✓			✓		
Wren	<i>Troglodytes troglodytes</i>	Confirmed		✓			✓		
Yellow Wagtail	<i>Motacilla flava</i>	Non-Breeding	✓			✓		✓	✓