

# **WINTERING BIRD SURVEY - MAES MAWR**

On behalf of Elgin Energy



Quality	Quality Management						
Version	Status	Authored by	Reviewed by	Approved by	Review date		
1	Issue to client	Tim Oliver		Tim Oliver			
Approva	al for issue						
Tim Olive	r			5 March 2021			
File/Mod	del Location						
Docume	nt location:	ECO01096 Wintering Bi	rds Survey – Maes May	<u>vr</u>			
Model / A	Appendices location	n:					

#### © Copyright RPS Group Plc. All rights reserved.

The report has been prepared for the exclusive use of our client and unless otherwise agreed in writing by RPS Group Plc, any of its subsidiaries, or a related entity (collectively 'RPS'), no other party may use, make use of, or rely on the contents of this report. The report has been compiled using the resources agreed with the client and in accordance with the scope of work agreed with the client. No liability is accepted by RPS for any use of this report, other than the purpose for which it was prepared. The report does not account for any changes relating to the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report. RPS does not accept any responsibility or liability for loss whatsoever to any third party caused by, related to or arising out of any use or reliance on the report.

RPS accepts no responsibility for any documents or information supplied to RPS by others and no legal liability arising from the use by others of opinions or data contained in this report. It is expressly stated that no independent verification of any documents or information supplied by others has been made. RPS has used reasonable skill, care and diligence in compiling this report and no warranty is provided as to the report's accuracy. No part of this report may be copied or reproduced, by any means, without the prior written consent of RPS.

Prepared by:	Prepared for:
RPS	Elgin Energy

# **Contents**

1	INIF	RODUCTION	1
	1.1	Purpose and scope of this report	
	1.2	Study area	
	1.3	Legislation and policy	1
2	MET	HODS	4
	2.1	Desk study Error! Bookmark not de	efined.
	2.2	Wintering birds survey	
	2.3	Accurate Lifespan of Ecological Data	5
3	RES	ULTS	6
	3.1	Wintering bird survey	6
	3.2	Species Activity	7
4	EVA	LUATION	10
	4.1	Geographical importance	
5	CON	ICLUSION AND RECOMMENDATIONS	13
REF	REN	CES	14
Tab	les		
Table	2.1 5	Survey weather conditions	4
		Species of conservation interest and Schedule 1 species recorded during the wintering	
		survey	6
	4.1:	Species of conservation interest, mean and maximum counts and conservation and cour	•
rable		status	10
		Species Habitat Associations	

# **Figures**

Figure 1	Wintering Bird Survey Results - February 2021
Figure 2	Wintering Bird Survey Results - November 2021
Figure 3	Wintering Bird Survey Results - December 2021
Figure 4	Wintering Bird Survey Results January 2022
Figure 5	Phase 1 Habitat Survey Plan

# **Appendices**

Appendix A Wintering bird species list and counts - 2021/2022

## 1 INTRODUCTION

# 1.1 Purpose and scope of this report

- 1.1.1 RPS was commissioned by Elgin Energy to carry out a wintering birds survey of land at Maes Mawr near Ton-teg, Rhondda Cynon Taf, on the site which is proposed for the development of a solar energy farm.
- 1.1.2 The aims of the wintering bird survey was to:
  - provide baseline information on the current status of the survey area in respect of wintering birds; and
  - inform the design and development of any ecological mitigation and enhancement measures that may be required.
- 1.1.3 The ornithological data obtained for the site has been used to define the importance of the populations of each overwintering species and the importance of the assemblage as a whole.
- 1.1.4 The assessment greatest effort in assessing possible impacts should be targeted at
- 1.1.5 Species of conservation interest, i.e. protected or vulnerable species which include:
  - Species of high or moderate conservation concern, Red and Amber Lists for Wales;
  - Species of Principal Importance, Section 7 of the Environment (Wales) Act 2016;
  - Species included as priorities in Local Biodiversity Action Plans; and
  - Species occurring at nationally, regionally or locally important numbers.
  - Schedule 1 species, Wildlife and Countryside Act 1981;
- 1.1.6 The extent to which the proposed solar park would affect the use of the site has also be reviewed with recommendations for avoiding / minimising effects on through layout, landscape proposals and long term management for biodiversity.

# 1.2 Study area

- 1.2.1 The site is approximately 40ha located on agricultural land between at Maes Maw and is centred on National Grid coordinates ST102858. Willowford Road (unclassified single track road) runs north-south through the middle of site broadly creating eastern and western sections.
- 1.2.2 The site largely comprises marshy grassland bounded by hedgerows and field ditches with some fields of semi-improved pasture.
- 1.2.3 One small blocks of broadleaved woodland falls within the site boundary with larger blocks of woodland adjoining the site to the north and east. The Church Village bypass (A473) adjoins the site to the north-west with further broadleaved woodland and residential areas on the opposite side of this road. Pastural fields, bounded by hedgerows, extend beyond the site boundary to the south. An operational solar park lies to the south-east of the site.

## 1.3 Conservation Status

1.3.1 A number of bird species recorded within the UK (including those that are resident, overwintering and migratory) are listed on Annex I of the 'Birds Directive' which requires the UK Government to take special measures, including the designation of Special Protection Areas (SPAs), to ensure the survival and reproduction of these species throughout their area of distribution.

1.3.2 Reference is not made to species afforded special protection under Schedule 1 of the Wildlife and Countryside Act as the protection measures in this Act only apply to bird species within the breeding season.

#### Birds of conservation concern

- 1.3.3 The Birds of Conservation Concern (BoCC) is an assessment of the conservation status of all regularly occurring British birds. The lists (Red, Amber and Green), that indicate the level of conservation importance for each species, are derived from quantitative assessments from standardised criteria. The assessment is based on the most up-to-date evidence available and criteria include conservation status at global and European levels and, within the UK: historical decline, trends in population and range, rarity, localised distribution and international importance. The lists are drawn together by the UKs leading bird conservation organisations, including the Royal Society for the Protection of Birds (RSPB) and British Trust for Ornithology (BTO).
- 1.3.4 The criteria for birds being included in the BoCC lists is as follows.

#### **BoCC Red List:**

- 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;
- Severe non-breeding range decline over 25 years.

#### **BoCC Amber List**

- Threatened in Europe;
- 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;
- Breeding/non-breeding international importance.

#### **Green List:**

- species that occur regularly in the UK but do not qualify under any or the above criteria.
- 1.3.5 Although the lists confer no legal status in themselves, they are useful in evaluating the conservation significance of bird assemblages, and for assessing the potential significance of impacts and informing appropriate levels of mitigation with respect to bird populations.

# **Species of Principal Importance**

1.3.6 For the purpose of this assessment, notable bird species are defined as Species of Principal Importance for the conservation of biodiversity in Wales [listed under Section 7 of the Environment

(Wales) Act 2017]; and species classified as Birds of Conservation Concern in Wales (included on the Red or Amber lists).

### **Legal Protection**

- 1.3.7 Although not directly relevant to the use of the site by overwintering populations, all birds, their nests and eggs are afforded protection under the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000.
- 1.3.8 A few species are also list under Schedule 1 of the Wildlife and Countryside Act and receive additional legal protection preventing intentional or reckless disturbance of birds when nesting. Licences can be issued to visit the nests of Schedule 1 species for scientific or photographic purposes, but do not allow disturbance from development activities even where they are fully authorised by a valid planning permission.

## 2 METHODS

# 2.1 Wintering birds survey

- 2.1.1 The wintering bird survey was based on a standard 'walkover' methodology as outlined in Gilbert et al. (1998) and Bibby et al. (2000).
- 2.1.2 The survey area covered the whole of the potential development site and land immediately adjoining the survey boundary. The survey area was defined to enable the likely impacts of the solar park development on the wintering bird species utilising habitats in the site.
- 2.1.3 The site was subject to four survey visits, each undertaken by Tim Oliver an RPS ecologist with long standing experience of undertaking ornithological survey. The dates, survey times and weather conditions for each survey visit are presented in Table 2.1.

Table 2.1 Survey dates and conditions

Date and time	Cloud cover (oktas)	Wind (Beaufort Scale)	Temperature (°C)	Visibility	Rain	Notes
04/03/21 07:00 - 13.00	5	В1	6 to 8	Good (sunny)	Dry	-
12/11/21 07:30 – 12.00	8	B1	8 to 10	Moderate (overcast)	Dry	Rain overnight
16/12/2021 8.30 – 12.30	8	B1	10	Good (High cloud)	Dry	
27/01/2021 08:45 – 12:00	8	B1	9 - 11	Moderate (overcast)	Dry following light rain before survey	

- 2.1.4 During each visit, the survey area was walked at a slow pace in order to locate and identify all individual birds. The whole survey area was covered during each visit, and all areas of the site were approached to within 50-100m where possible.
- 2.1.5 Surveys were undertaken in the morning, commencing just after sunrise and finishing before midday. The transect was walked at a steady pace with brief pauses as necessary to listen for bird song/calls and to scan for birds. Binoculars were used throughout the survey visit to scan the open habitats, scrub, hedgerows and woodland edges.
- 2.1.6 Survey routes were mapped, and the direction walked alternated to ensure that all areas were covered at various times of day across the duration of the survey. All species encountered within the survey area were recorded and mapped.
- 2.1.7 On each visit, registrations were recorded on a 1:1250 scale Ordnance Survey base map of the study area (and adjacent land). Registrations of birds were recorded using standard British Trust for Ornithology (BTO) two letter species codes (BTO 2009). On completion of the each survey, the data captured was analysed to provide an estimate of the abundance and distribution of notable species present.
- 2.1.8 The importance of the wintering bird community was assessed and defined in a geographical context with reference to thresholds of national, regional, county, local and site importance with reference to the use by notable bird species are defined as Species of Principal Importance, UK BAP priority species and Birds of Conservation Concern (BoCC) in Wales (Red or Amber lists).

# 2.2 Accurate Lifespan of Ecological Data

2.2.1 The majority of ecological data remains valid for defined period due to the inherently transient nature of the subject. The survey results contained in this report are considered accurate for up to two years.

## 3 RESULTS

# 3.1 Wintering bird survey

- 3.1.1 In total 43 species were recorded within the site, or in habitats close to the site boundary. An additional four species were only recorded overflying the site.
- 3.1.2 The list of all species recorded during the survey visits is provided in Appendix 1 with the counts for each species.
- 3.1.3 In total, 17 of the species recorded are of high or moderate conservation concern in Wales and/or species of principal importance in Wales. These species are listed in Table 3.1 and the activity is presented on Figure 1.
- 3.1.4 The following breakdown refers to species recorded in habitats within or adjoining the boundary of the site:
  - 5 Red List species of high conservation in Wales, of which 3 are also species of principal importance under Section 7 of the Environment (Wales) Act 2016.
  - 12 Amber List species of moderate conservation in Wales of which 3 are also species of principal importance
  - 1 Species of Principal Importance in Wales that is a Green List species in Wales (but Amber in the UK)
- 3.1.5 In addition, four widespread bird species that are Amber list in the UK were recorded on site (wren, wood pigeon, stock dove and dunnock). Each of these are classified as having moderate conservation in the context of the UK but are on the Green list for Wales.
- 3.1.6 No species included on Schedule 1 species under the Wildlife and Countryside Act 1981 (as amended) were recorded in the survey area. A peregrine, a Green list but included on Schedule 1 was observed overflying the site on one occasion.

Table 3.1: Recorded Species of Conservation Interest and Schedule 1 Species

Species	Scientific Name	Birds of Conservation Concern Status (Wales)	Species of Principal Importance - Environment (Wales) Act	Maximum count	Notes
Bullfinch	Pyrrhula pyrrhula	Amber	Υ	6	
Dunnock	Prunella modularis	Green	Υ	7	
Fieldfare	Turdus pilaris	Amber		24	
Goldcrest	Regulus regulus	Amber		1	Off-site
Green woodpecker	Picris picris	Amber		2	
Grey wagtail	Motacilla cinerea	Amber		3	
Herring gull	Larus argentatus	Red	Υ		Overflew
Kestrel	Falco tinnunculus	Red	Υ	1	
Lesser black-backed gull	Larus fuscus	Amber			Overflew
Long-tailed tit	Aegithalos caudatus	Amber		12	
Linnet	Carduelis cannabina	Red	Υ	70	
Mallard	Anas platyrhynchos	Amber		c200 (farmed)	
Mistle thrush	Turdus viscivorus	Amber		7	

Peregrine	Falco peregrinus	Green			Overflew
Redwing	Turdus iliacus	Amber		c80	
Reed bunting	Emberiza schoeniclus	Amber	Υ	2	
Skylark	Alauda arvensis	Amber	Υ	1	
Snipe	Gallinago gallinago	Amber		1	
Song thrush	Turdus philomelos	Amber	Υ	2	
Starling	Sturnus vulgaris	Red	Y	c275	inc. off- site
Woodcock	Scolopax rusticola	Red		1	

# 3.2 Species Activity

3.2.1 Observations of the red and amber list species are provided below, excluding peregrine, herring gull and lesser black backed gull which were only observed overflying the site with no association with any of the habitats within the survey area.

### Red List Species in Wales

#### **Bullfinch**

3.2.2 Bullfinch was recorded in low numbers on three of the four survey visits, with a peak count of 6 in November 2021. Almost all bullfinch records were around the mature scrubby hedgerows on the western side of the site.

#### **Kestrel**

3.2.3 Kestrel was only recorded during the December survey, with an individual male overflying marshy grassland on the western boundary before moving off in a westerly direction. It is considered to be an occasional visitor to the site in winter.

#### Linnet

- 3.2.4 Linnet were only recorded during two of the survey visits. A flock of 70 birds were recorded during the February survey with activity centred on the eastern side of the site roosting in trees and hedgerow, feeding on a field where an element of winter food remained available into late winter with part of the flock foraging in hedgerows elsewhere on site during the February survey.
- 3.2.5 A small flock of linnet (5) were observed during the December survey, the birds in shrubs on the western boundary disbursing off-site to the west. Occasional winter visitor

#### Starling

- 3.2.6 Starling were recorded on all visits. An estimated peak count of 275 was made up of several disparate flocks was recorded in December 2021 using fields inside and outside the site boundary. Flocks of 80 and 70 were record in November and January
- 3.2.7 Starling were mainly recorded on the eastern side of the site feeding on short sheep grazed pasture fields and roosting in trees and on wires. Small flocks were seen occasionally in the shrubs close to Pond 2 and feeding on further pasture fields offsite to the south-west.

#### Woodcock

3.2.8 An individual woodcock was flushed from the small block of broadleaved woodland on the southwestern boundary of the site during the November visit. The main woodland structure is a high

canopy and grassy ground flora with few shrubs and is managed for game. Specific checks were made in this habitat in subsequent surveys with no further observations.

### **Amber List Species in Wales**

#### **Snipe**

3.2.9 The areas of the densest marshy grassland (north-western field) and around Pond 2 were transected by the surveyor. A snipe was flushed from soft rush in the vicinity of Pond 2 during the November survey visit and two kills very likely to have been snipe were found during the December survey visit; both in marshy grassland in the north-western part of the site.

#### **Green Woodpecker**

3.2.10 A single green woodpecker was heard and occasionally seen during the survey visits with activity most frequently associated with the grazed pasture.

#### **Fieldfare**

3.2.11 Fieldfare was present on site in November with a flock of 24 birds in the woodland and adjoining mature hedgerow trees on the western boundary. No flocks were seen feeding on fields within the site with the off-site horse grazed paddocks having higher suitability that the more tussocky and marshy grassland within the site.

### Long-tailed Tit

3.2.12 Small flocks of long tailed tits were recorded feeding along hedgerows in November and December with a maximum count of 12 made up of smaller flocks.

#### Mallard

3.2.13 At the site the mallard population comprises primarily hand reared birds. The highest numbers were present in November and December with a peak count of c200. The birds flocked together very closely with the birds exhibiting feral rather than wild behaviour. The flock was approximately half the size in December. The smaller flocks of mallard were observed around Pond 2 in February 2021 and on Pond 1 January 2022 and are considered likely to comprise primarily hand reared birds.

#### **Mistle Thrush**

3.2.14 Mistle thrush were recorded on all survey visits with between 2-6 individuals. Males were establishing breeding territories in February 2021 and overwintered at the site and in surrounding area in winter 2021/2022 with most activity associated with mature hedgerow trees and off-site woodland. Observations were of individuals or pairs were made across the site over the surveys.

### Redwing

- 3.2.15 Wintering flocks of redwing were recorded in November, December and January. The pattern of activity varied between visits. Smaller flocks were distributed across the site in November with an estimated 70 birds present across the site, although the movement of flocks meant that some double counting would have been possible. In comparison, in January the redwing were feeding in the off-site woodland and fields beyond the eastern boundary with only 3 birds recorded on the site boundary.
- 3.2.16 During the December visit the activity was also associated with the pasture fields in the eastern side of the site and adjoining off-site woodland but the flocks was observed actively feeding on fields within the site part of the time.

#### **Reed Bunting**

3.2.17 Two overwintering female reed buntings were recorded in the western half of the site in November and December visits; associated with areas of marshy grassland that adjoin dense cover with the individuals recorded in similar locations on both visits.

### **Song Thrush**

3.2.18 Song thrush was recorded on three of the four survey visits with counts of up to two birds. All the activity was associated with lines of matures trees or woodland adjoining the site boundary.

#### Skylark

3.2.19 An individual skylark was observed in February 2021 feeding in the field providing late winter food on the eastern side of the site in proximity to the linnet flock. Land management of this field changed in summer 2021 and it was reverting to species-poor rush pasture in winter 2021/2022. There were no sightings of skylark during any of the subsequent survey visits.

## **Other Species**

#### Dunnock

3.2.20 Dunnock (a Species of Principal Importance) were recorded in hedgerows on the field boundaries on all visits in similar numbers (between 4 - 10 individuals), with the peak count in February 2021. Activity was consistently related to dense structured hedgerows and bramble thicket with regular sightings along the managed roadside hedge and in bramble thicket near Pond 1.

## 4 EVALUATION

# 4.1 Geographical importance

- 4.1.1 The following geographical frames of reference and selection criteria (based on the Guidelines for Ecological Impact Assessment in the United Kingdom [CIEEM, 2018]) are used to ascribe nature conservation value or potential value to the bird populations within the survey area.
  - International importance a species which is cited as part of the designated interest of a SPA and occurs in internationally or nationally important numbers.
  - National importance a species which is cited as part of the designated interest of a SSSI and occurs in nationally important numbers.
  - Regional importance Species of Principal Importance, UK BAP Priority Species, BoCC
     Red List species that regularly occur in regionally important numbers.
  - County importance Species of Principal Importance, BoCC Red List species, UK or RCT BAP Priority Species that regularly occur in numbers that are important on a county basis.
  - Local importance Wales BoCC Red or Amber List species, Species of Principal Importance, UK BAP Priority Species, which occur regularly in locally sustainable populations.
  - Site all common and widespread species;
- 4.1.2 The number of birds recorded during survey is compared to the species national wintering population estimate and county status. National winter population estimates are derived from Musgrove, et al. (2013). County wintering population estimates are not available, therefore a descriptive status derived from the county bird list has been used in this evaluation. No regional or local population estimates are available for the species concerned to enable comparative quantification of the population at these geographic levels, as a result, professional judgment and comparisons with population estimates at higher geographical levels have been used to inform this evaluation.
- 4.1.3 Table 4.1 summarises the abundance of species of conservation interest recorded during the survey, the national population estimate and county status for these species and the geographical importance of the populations within the survey area as derived from the criteria outlined above.

Table 4.1: Species of conservation interest, mean and maximum counts and conservation and county status

Species	Peak Count	Mean Count	Estimated UK wintering population*	County status	Geographical importance of site
Bullfinch	6	2.7	440,000	Common breeding resident	Local
Dunnock	10	6	5 million	Common breeding resident	Local
Fieldfare	24	6.5	720,000	Common winter visitor and passage migrant. Amber	Local
Goldcrest (w)	1	<1	610,000	Common resident breeder and passage migrant, though	Site
Green woodpecker (w)	2	<1	116,000	Breeding resident and winter visitor	Local
Grey wagtail	3	1	76,000	Common resident breeder and passage migrant	Local

Species	Peak Count	Mean Count	Estimated UK wintering population*	County status	Geographical importance of site
Kestrel	1	<1	92,000	Common resident breeding species	Site
Long-tailed tit (w)	12	5.2	680,000	Common resident breeding species	Site
Linnet	70	18.7	86,000	Common resident breeder, passage migrant and winter visitor	County
Mallard**	c180	84.2	710,000	Common breeding resident augmented by hand reared releases	n/a
Mistle thrush	6	5	340,000	Common breeding resident	Local
Redwing	70	43.2	690,000	Common winter visitor and passage migrant	County
Reed bunting	2	<1	500,000	Locally common breeding resident, passage migrant and winter visitor	Site
Skylark	1	<1	3 million	Common resident breeding, winter visitor and passage migrant	Site
Snipe	1	<1	1.1 million	Common winter visitor and passage migrant – occasional breeder bird.	Site
Song thrush	2	<1	2.4 million	Common breeding resident.	Site
Starling	275	110	3.8 million	Common but declining breeding resident and winter visitor.	Local
Woodcock	1	<1	1.4 million	Uncommon resident, chiefly in upland woodlands, and coastal sites in winter	Site

Key: Species:

- 4.1.4 Most of the overwintering bird species at the site were recorded within the survey area occurred n low numbers during wintering bird surveys and no counts of any species form a significant proportion (i.e. 1% or more) of the national wintering population estimates as detailed in Musgrove et al. (2013) or the county population. Therefore, for these species' wintering populations across the survey area are considered to be of importance at a Site or Local level.
- 4.1.5 The large flock of linnet in late winter is notable at a county level.
- 4.1.6 Across the county records of large flocks are generally from autumn and early winter with over 100 birds in a few locations. Noteworthy counts of over 20 birds in the late winter period are limited to under 10 locations across the county.
- 4.1.7 With mild winter conditions large redwing flocks (over 20) are relatively rare at a county level with only a few sites with flocks of between 20-60 between January and March. The count of 40 70 birds between November and January indicates an overwintering population with the potential to be of county importance.
- 4.1.8 Overall the wintering bird assemblage recorded during the survey is considered typical for the habitats present within survey area. Whilst the majority of species recorded are common and widespread the survey area does provide wintering habitat for an assemblage of notable species.
- 4.1.9 The main habitats of ornithological value were the hedgerows, mature trees and woodland blocks (primarily off-site). The ponds /waterbodies are located outside but adjacent to the survey area.

Page 11

rpsgroup.com

<sup>\*</sup> denotes a strict UK population estimate excluding IoM as listed Musgrove et al 2013

<sup>\*\*</sup> denotes primarily hand reared birds subject to supplementary feeding

<sup>(</sup>w) denotes species as listed as of conservation concern in Wales but not the UK

## **Table 4.2 Species Habitat Associations**

Habitat Type	Associate Wintering Bird Species
Pasture (sheep grazed)	Redwing and starling feed on the close cropped fields along with pied wagtail, and occasionally grey wagtail, fieldfare, and green woodpecker
Reverting pasture field with late winter food	Linnet, skylark (only present in one of the four visits)
Tussocky poor-semi-improved grassland and species-poor rush pasture	Stock dove, pheasant, redwing, chaffinch, goldfinch (linnet)
Marsh / Marshy grassland (soft rush)	Snipe
Scrubby field margins	Stonechat, dunnock, reed bunting, wren
Hedgerows and mature trees	Robin, dunnock, blackbird, blue tit, great tit, goldfinch, siskin, song thrush, long-tailed tit, chaffinch, jay, magpie, wren
Woodland blocks (primarily off-site)	Song thrush, mistle thrush as well as redwing. Woodcock, sparrowhawk Nuthatch, treecreeper, various tit species, goldcrest, and great spotted woodpecker
Ponds	Mallard (hand reared) and water rail (early winter only)

## 5 CONCLUSION AND RECOMMENDATIONS

- 5.1.1 The survey of wintering birds recorded an assemblage within the survey area of 43 species. A total of 17 species of conservation concern (Red listed, Amber Listed and/or Species of Principal Importance in Wales) were recorded within or adjacent to the survey area during the winter survey visits.
- 5.1.2 Most of the species of conservation interest were considered to be present in numbers that would be significant at a local level or lower. Two species were recorded in numbers of importance ion a county context on at least one of the surveys: linnet and redwing. All Green List species not qualifying as of conservation interest were present at a site level of importance.
- 5.1.3 The retention and protection of hedgerows, mature trees and woodland would maintain the resource used by the majority of wintering bird species at the site. A stand off should be maintained between the hedgerow and perimeter fence of the solar park. Woodland and woodland boundary trees should be protected within a minimum 10m stand off from the perimeter fence.
- 5.1.4 Changes to the grasslands and their context following the installation of solar panels will have the potential to affect a few species, most notably linnet, skylark, redwing, starling and snipe.
   Depending on the structure of the grassland beneath the array some species would be expected to continue to forage on the ground between and beneath solar arrays in the solar farm.
- 5.1.5 Recommended mitigation for wintering farmland birds would include the use of wild bird cover crops on selected field margins in the eastern half of the site to provide a food source for passerine species including linnet and skylark. The wild bird cover crops would be cultivated and resown annually with a mix of seed bearing crops (such as barley, triticale, quinoa, linseed, millet, mustard, fodder radish and sunflower). Selected field margins would be c6m wide and run along the southern side of hedgerows.
- 5.1.6 The majority of the ground between the perimeter fence and hedgerows should be grassland that is subject to a simple low key management regime to create variation in structure and maintain a resource of value to foraging birds throughout the year.
- 5.1.7 Important habitats should be protected from significant disturbance when the site is operational.

  This could be achieved through the implementation of measures to minimise additional pedestrian or vehicular access close to woodland edges or in proximity to mature trees.
- 5.1.8 Overall management of the solar park development over its operational life for biodiversity should also provide benefits for the wintering bird populations.

rpsgroup.com

Page 13

## REFERENCES

Bibby, C.J., Burgess, N.D., Hill, D.A. & Mustoe, S.H. (2000). *Bird Census Techniques, second edition*. Academic Press, London.

Eaton M. A., Aebischer, N., Brown A., Hearn R., Lock L., Musgrove A., Noble D., Stroud D. & Gregory R. D. (2015). Birds of Conservation Concern 4: The population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 108, 708-746.

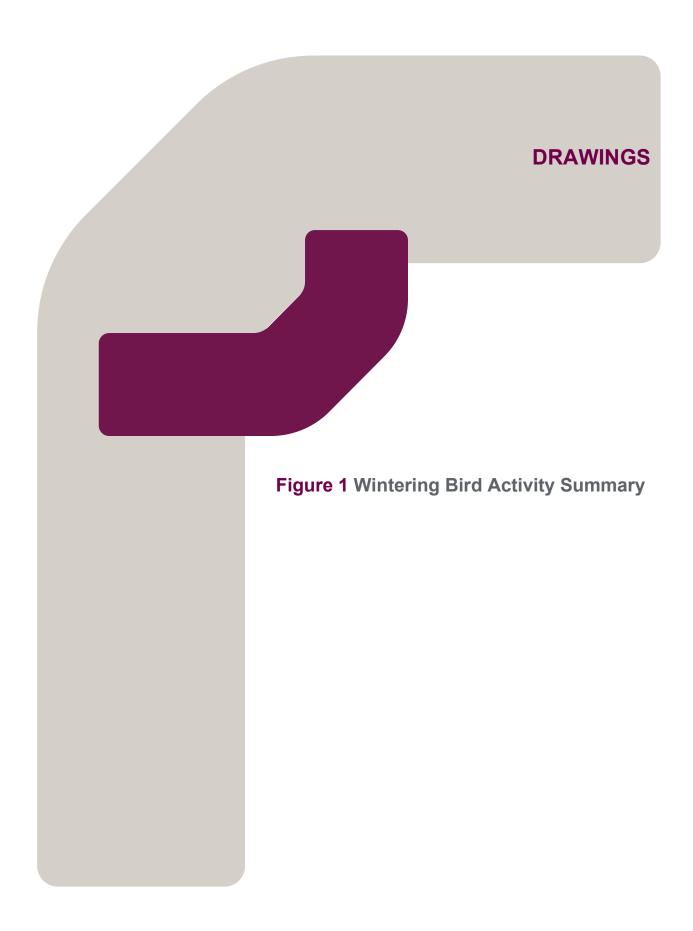
Gilbert, G., Gibbons, D.W. and Evans, J. (1998). *Bird Monitoring Methods: a manual of techniques for key species*. RSPB/BTO/JNCC/WWT/ITE/The Seabird Group. RSPB/BTO, Sandy, Bedfordshire.

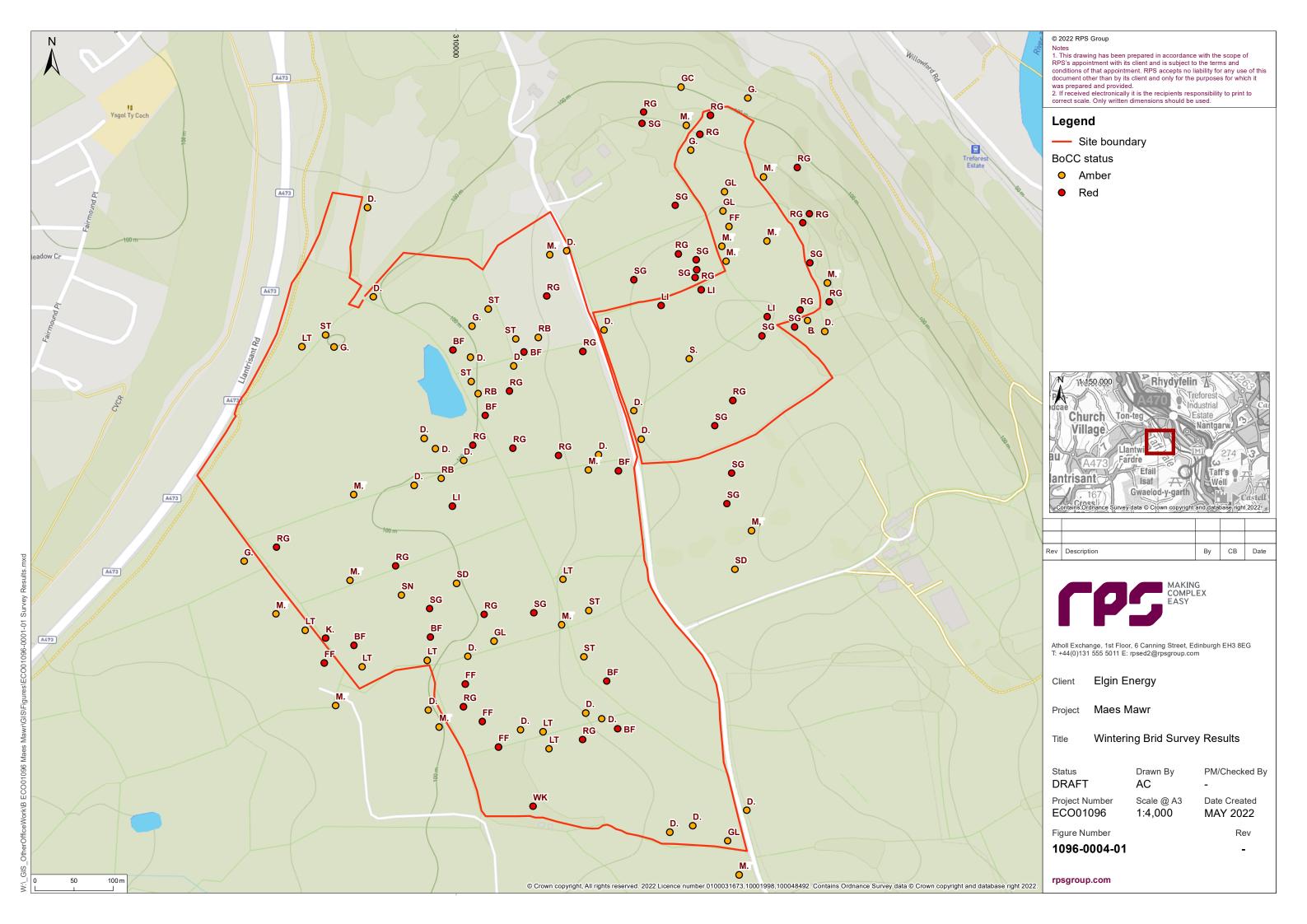
Musgrove, A., Aebischer, N., Eaton, M., Hearn, R., Newson, S., Noble, D., Parsons, M., Risely, K, and Stroud, D. (2013) *Population estimates of birds in Great Britain and the United Kingdom*. British Birds 106, 64-100.

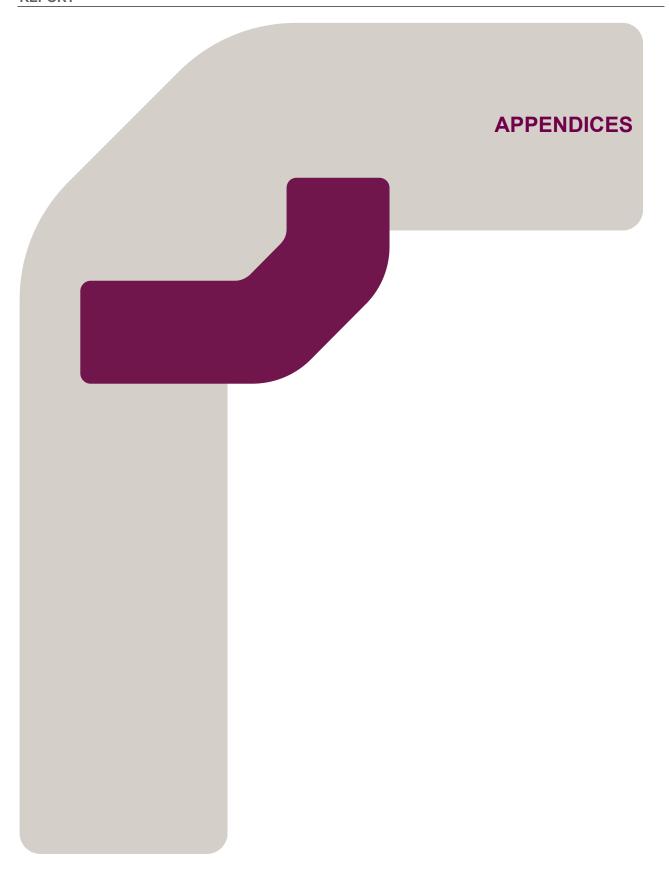
Noble et al (2018) The state of birds in Wales 2018. The RSPB, BTO, NRW and WOS. RPSB Cymru, Cardiff

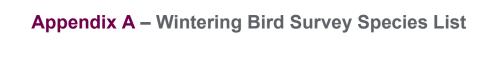
Vanhinsbergh, D., Fuller, R.J & Noble, D.G. (2001). *An analysis of changes in the populations of British woodland birds and a review of possible causes.* BTO Research Report, British Trust for Ornithology, Thetford, Norfolk.

ECONODO L Wintering Dird Current LA L March 2022









# Wintering bird species and status - 2021/2021

Species	Scientific Name	Schedule 1 WCA	BoCC (Wales)	BoCC5 (UK)	SPI (Wales)	
Blackbird	Turdus merula					
Blue tit	Cyanistes caeruleus					
Bullfinch	Pyrrhula pyrrhula		Red	Amber	Υ	
Buzzard	Buteo buteo					
Carrion crow	Corvus corone					
Chaffinch	Fringilla coelebs					
Coal tit	Periparus ater					
Collared Dove	Streptopelia decaocto					
Dunnock	Prunella modularis			Amber	Υ	
Fieldfare	Turdus pilaris		Amber	Red		
Goldcrest	Regulus regulus		Amber			
Goldfinch	Carduelis carduelis					
Great spotted woodpecker	Dendrocopos major					
Great tit	Parus major					
Green woodpecker	Picus viridis		Amber			
Grey wagtail	Motacilla cinerea		Amber	Amber		
Jackdaw	Coloeus monedula		7	7		
Jay	Garrulus glandarius					
Kestrel	Falco tinnunculus		Red	Amber		
Linnet	Linaria cannabina		Red	Red	Υ	
Long-tailed tit	Aegithalos caudatus		Amber		<u> </u>	
Magpie	Pica pica					
Mallard	Anas platyrhynchos		Amber	Amber		
Mistle thrush	Turdus viscivorus		Amber	7 (111001		
Nuthatch	Sitta europaea		7111501			
Peregrine	Falco peregrinus					
Pheasant	Phasianus colchicus					
Pied wagtail	Motacilla alba					
Raven	Corvus corax					
Redwing	Turdus iliacus		Amber	Amber		
Reed bunting	Emberiza schoeniclus		Amber	Amber	Y	
Robin	Erithacus rubecula		Allibei	Allibei	<u>'</u>	
-						
Skylark	Spinus spinus  Alauda arvensis		Amber	Red	Υ	
Skylark Song thrush					Y Y	
Song thrush	Turdus philomelos		Amber	Amber	Y	
Sparrowhawk	Accipiter nisus		D. J	Amber		
Starling	Sturnus vulgaris		Red	Red	Y	
Snipe	Gallinago gallinago		Amber	Amber		
Stock Dove	Columba oenas			Amber		

Species	Scientific Name	Schedule 1 WCA	BoCC (Wales)	BoCC5 (UK)	SPI (Wa
Stonechat	Saxicola rubicola				
Treecreeper	Certhia familiaris				
Water rail	Rallus aquaticus				
Woodcock	Scolopax rusticola		Red	Red	
Wood pigeon	Columba palumbus			Amber	
Wren	Troglodytes troglodytes			Amber	



# Wintering bird species counts per visit - 2021/2022

		Counts (per visit)				
Species	Scientific Name					
		24/02/21	12/11/21	16/12/21	27/01/21	
Blackbird	Turdus merula	7	18	11	6	
Blue tit	Cyanistes caeruleus	9	25	28	18	
Bullfinch	Pyrrhula pyrrhula		6	4	1	
Buzzard	Buteo buteo	Overflew	2		1	
Carrion crow	Corvus corone	3	6	2	6	
Chaffinch	Fringilla coelebs	16	8	7		
Coal tit	Periparus ater	1 (off-site)	1 (off-site)	3	1 (off-site)	
Collared Dove	Streptopelia decaocto	2 (off-site)				
Dunnock	Prunella modularis	10	3	7	4	
Fieldfare	Turdus pilaris		24	2		
Goldcrest	Regulus regulus	1 (off-site)		1 (off-site)	1 (off-site)	
Goldfinch	Carduelis carduelis	7	35	16	10	
Great spotted woodpecker	Dendrocopos major		2	2	2	
Great tit	Parus major	4	3	9	5	
Green woodpecker	Picus viridis	2		1	1 (off-site)	
Grey wagtail	Motacilla cinerea		3	1		
Herring gull	Larus argentatus			Overflew		
Jackdaw	Coloeus monedula		Overflew			
Jay	Garrulus glandarius	2	3	3	1	
Kestrel	Falco tinnunculus			1		
Lesser Black- backed Gull	Larus fuscus			Overflew		
Linnet	Linaria cannabina	70		5		
Long-tailed tit	Aegithalos caudatus		12	9		
Magpie	Pica pica	2	2	4	1	
Mallard	Anas platyrhynchos	22	c180	110	25	
Mistle thrush	Turdus viscivorus	6	6	6	2	
Nuthatch	Sitta europaea	1	2	2	1 (off-site)	
Peregrine	Falco peregrinus		Overflew			
Pheasant	Phasianus colchicus		2			
Pied wagtail	Motacilla alba	4	8	5	1	
Raven	Corvus corax	Overflew	1			
Redwing	Turdus iliacus		c70	c60	3 (c40 off-site)	
Reed bunting	Emberiza schoeniclus	1	2	2		
Robin	Erithacus rubecula	9	12	13	10	
Siskin	Spinus spinus		24		4	
Skylark	Alauda arvensis	1				
Song thrush	Turdus philomelos	1		2	1	
Sparrowhawk	Accipiter nisus	1 (off-site)				
Starling	Sturnus vulgaris	14	80	275 inc. off-site	70 (off-site)	

Species	Scientific Name	Counts (per visit)				
		24/02/21	12/11/21	16/12/21	27/01/21	
Snipe	Gallinago gallinago		1			
Stock Dove	Columba oenas	22				
Stonechat	Saxicola rubicola	3	2			
Treecreeper	Certhia familiaris		2	1	1	
Water rail	Rallus aquaticus		1			
Woodcock	Scolopax rusticola		1			
Woodpigeon	Columba palumbus	4	8	4	1	
Wren	Troglodytes troglodytes	5	12	9	2	