



Sirius Planning

Land off Goat Mill Road, Merthyr Tydfil

Ecology Response

March 2022

FPCR Environment and Design Ltd

Registered Office: Lockington Hall, Lockington, Derby DE74 2RH

Company No. 07128076. [T] 01509 672772 [E] mail@fpcr.co.uk [W] www.fpcr.co.uk

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1.0 INTRODUCTION

- 1.1 Since 2019 FPCR have been conducting ongoing ecological works on behalf of Sirius Planning at Land off Goat Mill Road, Merthyr Tydfil. The works have been completed to accompany a planning application for a proposed plastic recycling and processing facility with associated office accommodation, external storage area, vehicular parking and weighbridge, surface water lagoon.
- 1.2 FPCR provided an Ecological Appraisal (Eco App) – dated September 2021. The Eco App details the results of all ecological survey work conducted by the time of the pre-application consultation and second pre-application request submission to Merthyr Tydfil CBC. The Eco App discusses the expected ecological impact of the proposed development and, where necessary provides recommendations to avoid, mitigate and compensate for any such impacts.
- 1.3 Following submission of the second pre-application request to Merthyr Tydfil CBC comments from the LPA Ecologist were received, dated 3rd November 2021.
- 1.4 FPCR have produced three further documents to address the comments provided by the LPA ecologist, these are as follows:
 - a) Written Response
 - b) Ecological Addendum
 - c) Construction and Landscape Ecological Management Plan (CLEMP)
- 1.5 The present report forms **Item a**.
- 1.6 The various responses provided by the LPA Ecologist were divided into subsections by sub-headers. Consequently, for ease of reading, this Response has been sub-divided into subsections with the same titles as the LPA comments – the objective of each subsection being to respond, where appropriate, to the comments raised by the LPA Ecologist.
- 1.7 Certain comments have been addressed via further survey work/desk investigations. Where these have been conducted, the additional data/findings have been presented in the separate Ecological Addendum (Item b).

2.0 ECOLOGICAL SURVEY WORK

- 2.1 The first comment provided in the response related to the age of ecological data. Survey works have been conducted by FPCR since July 2019, with certain surveys, both for protected species and habitats, continuing into 2020.
- 2.2 Table 1 of the response, Age of Survey Data highlights the approximate age of data on 2nd November 2021, with reference to the Age of Data/Report/Survey Validity as detailed by CIEEM Advice Note¹. The response noted that data fell between 12.5 months and 27 months old and was therefore “technically” out of date.
- 2.3 As noted in Box 1 of the response, taken from the CIEEM Advice Note, data aged between 12 – 18 months old should be valid in most cases (with a small number of exceptions). Further, Box 1 of the response states that for data between 18 – 36 months old:
- 2.4 *“A professional ecologist will need to undertake a site visit and may also need to update desk study information (effectively updating the Preliminary Ecological Appraisal) and then review the validity*

¹ CIEEM (2019). Advice Note - on The Lifespan of Ecological Reports & Surveys. Available at: <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf> (Accessed: 01/02/2022).

of the report, based on the factors listed below. Some or all of the other ecological surveys may need to be updated. The professional ecologist will need to issue a clear statement, with appropriate justification, on:

- *The validity of the report;*
- *Which, if any, of the surveys need to be updated; and*
- *The appropriate scope, timing and methods for the update survey(s)”*

Habitat Assessment

- 2.5 With regards to this information, FPCR conducted a walkover of the site on 14th January 2022 to confirm whether the baseline habitats, as detailed within the Eco App had changed. The walkover was conducted by an ecologist experienced in habitat assessment (the surveyor holds a Botanical Society of Britain and Ireland (BSBI) FISC Level 4).
- 2.6 The walkover confirmed the habitats onsite remained unchanged.
- 2.7 FPCR acknowledge that the walkover was conducted at a sub-optimal time of year from a botanical interest perspective. However, the vegetation composition and structure (areas of grassland, bare ground, scrub pockets, groups of trees) remain in line with that recorded over multiple site visits since 2019.
- 2.8 We are therefore content, based on historic knowledge of the site and professional judgement, that as of January 2022 there is no change to habitats on site.
- 2.9 We therefore maintain that assessments of habitat, as detailed within the Eco App remain valid.

Protected Species Surveys

- 2.10 During the aforementioned walkover an opportunity to update badger survey data and Wintering Bird Survey (WBS) data was taken on 14th January 2022. Details of the results of these surveys have been provided in the separate Addendum (forming Item b). Further responses in relation to bird surveys have been provided below in Section 7.
- 2.11 Given the lack of change in baseline habitat conditions, repeat surveys, are unlikely to produce results that differ materially from those that have been collated to date. This is evidenced by the results of the recent repeated WBS that aligns closely with the findings of the previous.
- 2.12 We note that clause 4.1.2 of BS42020³ stipulates that a proportionate approach to planning surveys may be taken. Further, that ecologists should make professional judgements on how best to proceed. We would also note that the Chartered Institute of Ecology and Environmental Management (CIEEM) in the most recent Ecological Impact Assessment Guidance⁴ advocate the use of professional judgement when deciding the proposed scope of surveys.
- 2.13 Given that there has been no change to baseline habitat conditions, there would be no sound reason to expect a material change in protected species usage of the site. There is no reason to suggest that results (as presented within the Eco App) relating to reptiles, invertebrates and bats would no longer be valid. Accordingly, based on our professional judgement, the assessment of habitats in January 2022, and the expectation that existing protected species results remain valid,

3 BSI (2013) BS42020: 2013 Biodiversity Code of practice for planning and development. British Standard Institution, London.

4 CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester

there should be no reason to conduct repeat protected species surveys solely for the reason of maintaining results as “technically” in date.

3.0 SINC QUALITY

- 3.1 An assessment of onsite grassland in accordance with local guidance⁵ relating to SINC quality has been made within the separate Ecological Addendum (Item b).

4.0 STEPWISE APPROACH

- 4.1 A discussion in relation to the mitigation hierarchy has been made within the separate Ecological Addendum (Item b).

5.0 LIGHTING ASSESSMENT

- 5.1 A stepwise approach to the lighting design has been taken. This has involved revisions to the lighting scheme based on feedback from FPCR, the LPA Ecologist (via the aforementioned comments – 23rd November 2021) to the project lighting engineers and client.
- 5.2 The external yard will require lighting 24 hours per day, seven days per week. This is due to the requirement for safe access to operate forklift trucks through the night, which is essential on the grounds of health and safety as part of safe external working practices.
- 5.3 Given this requirement for health and safety, the aim of the final proposed lighting scheme was to minimise light spill on retained habitats so as not to preclude the use of habitats for nocturnal animals, primarily bats.
- 5.4 The revised Proposed Exterior Lighting Strategy has been appended to this Response (Appendix A).
- 5.5 This approach to lighting design has been influenced by the two registrations of lesser horseshoe bats recorded across the 2020 survey period (further discussion in relation to bats is provided below). Lesser horseshoe are considered light sensitive and therefore every effort has been made to mitigate impacts of the lighting scheme.
- 5.6 Given existing lighting to the west, it is considered the eastern boundary of the site is most important in terms of maintaining low lighting levels. Maintaining the eastern boundary as dark will ensure an access corridor between the two areas of retained Open Mosaic Habitat in the north and south of the site respectively. Appendix A shows that the horizontal 0.2lux contour will sit away from the western face of the existing vegetation, as identified in the topographical survey of the site, for all but two pinch points. These two areas are identified below in Plate 1 as highlighted in red circles.

⁵ Criteria for the Selection of Sites of Importance for Nature Conservation in the County Boroughs of Blaenau Gwent, Caerphilly, Merthyr Tydfil and Rhondda Cynon Taff (The 'Mid-Valleys Area'). June 2008.

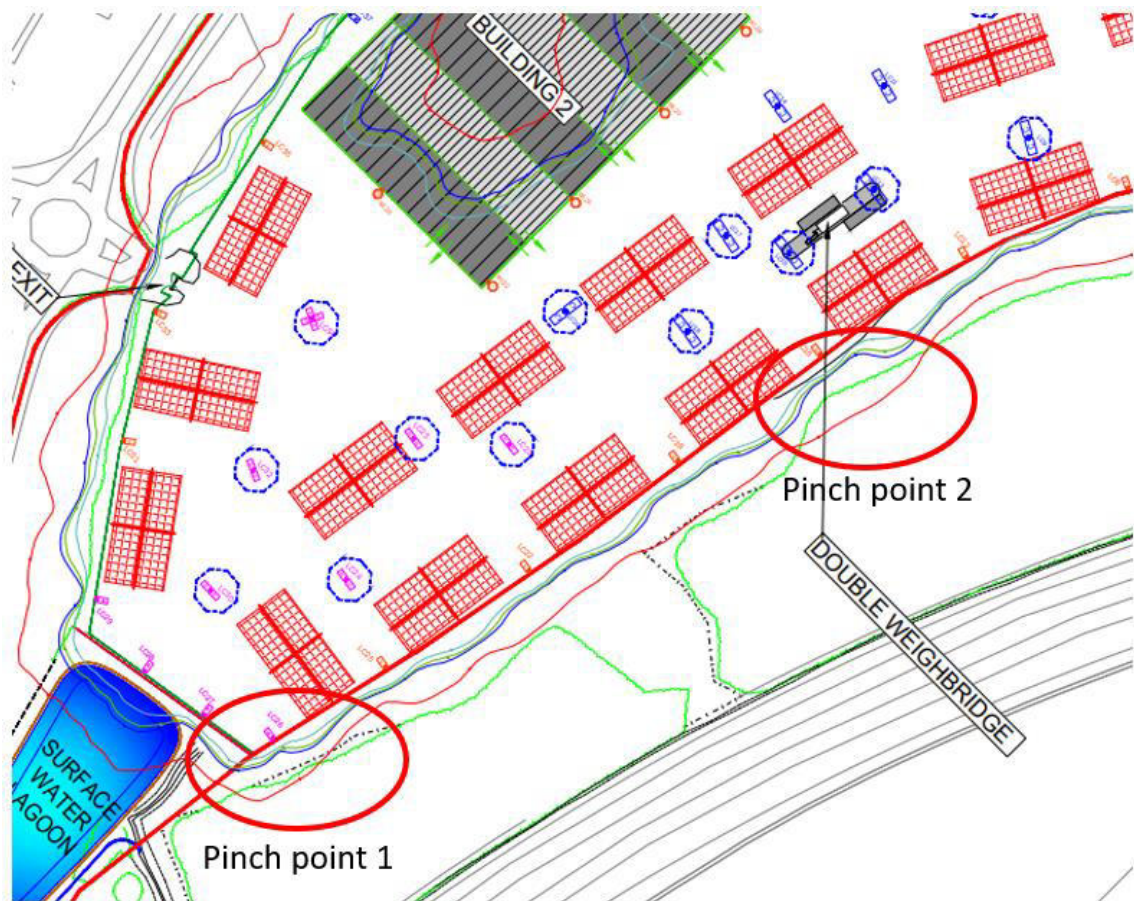


Plate 1: 0.2lux contour pinch points with existing vegetation on eastern site boundary.

- 5.7 A dark corridor will therefore, in the most part be achieved along this boundary without any further intervention. This accords with best practice guidelines and also the comment from the LPA ecologist “*illuminance on the habitat outside of the built elements of the site must be 0.2lux on the horizontal plane*”.
- 5.8 A further comment from the LPA Ecologist states illuminance on habitat outside the developable area must be “*0.4lux on the vertical plane*”. FPCR have received comments from the lighting engineers to confirm that this aspiration would be unachievable for a site of this size.
- 5.9 It should be noted that a number of options have been considered to mitigate light spill further:
- Firstly, the effect of proposed light shields has been incorporated into the calculations, however these do not reduce the spill to the requested levels.
 - An opaque perimeter fence had been incorporated into the lighting calculations. The lighting engineer has confirmed that the perimeter fence would need to be 12m+ high for it to have any measurable effect on lighting levels. This is not practical or feasible.
 - Further, the lighting engineer has amended the heights of the columns internally and on the perimeter of the site and incorporated these into the calculations. This too has no impact on the light spill.
- 5.10 Put simply, it is not possible to reduce the light spill further without specifying sub standard lighting. This is not an acceptable option given the requirement for health and safety.

- 5.11 FPCR would also note, that whilst the driver to minimize light spill has come from a low number of lesser horseshoe bats, it should be recognised that this species is one that favours woodland habitat. Consequently, there should be no reason that this species would not use the woodland east of the two pinch points to move north and south. Lesser horseshoe would be expected to utilise woodland under normal circumstances. Consequently, the woodland would not form a barrier to movement for this species.

Lighting conclusion

- 5.12 The above should be considered in context of the low numbers of lesser horseshoe recorded on site (as discussed below). Based on the findings of the bat surveys, the site represents very low value habitat for this species. And, in any case, there is no reason that this woodland favouring species could not use woodlands to move through habitat, where the 0.2lux contour meets existing vegetation.
- 5.13 Given the planning status of the site – an allocated site for employment and preferred area for waste management facilities – the impact on a low population of light sensitive bat species is considered negligible and not significant.

6.0 BATS

- 6.1 The bat activity surveys (both walked and automated) recorded relatively low numbers of bats during the 2020 survey period. We however recognise that the record of lesser horseshoe and *Nathusius pipistrelle* may have some local value.
- 6.2 For context, there were just two records for lesser horseshoe across all eight walked transects (seven dusk/one dawn) and seven automated surveys. The two lesser horseshoe records were recorded separately on separate months (one in July 2020, one in October 2020) across the survey period. The site therefore offers at best very low value for lesser horseshoe.
- 6.3 *Nathusius pipistrelle* were recorded during just one walked bat survey, that being September 2020. *Nathusius pipistrelle* were also recorded on four automated detectors deployed in June, July, September and October respectively. The peak count was recorded in July 2020 with 89 registrations. This detector was located in the south of the site in an area that is to be retained, protected and enhanced.
- 6.4 We agree that the proposals should not preclude the use of retained habitats for bats and mitigation measures have been incorporated into the design of the scheme (see also text above relating to lighting). Buffers no less than 10m have been provided between the compound perimeter fence and the plantation trees bounding the A4060.
- 6.5 Additionally, one night roost is proposed that will be constructed within a dark, retained area of the site. The proposed location and recommendations for ongoing monitoring of this roost has been provided within the CLEMP (Item c).

7.0 BIRDS

- 7.1 We acknowledge that the Breeding Bird Survey (BBS) and Wintering Bird Survey (WBS) effort differs from standard BBS and WBS guidelines.

- 7.2 A decision was made to reduce survey effort due to the results of the two BBS surveys (July – August 2019) and scoping WBS (March 2020). Further reasons/rationale behind this decision are described below.

None Targeted Survey Effort

- 7.3 An experienced FPCR birder/ornithologist and associate ecologists was on site throughout the 2020 survey season as part of the team conducting the targeted protected species surveys and habitat assessments. He has 20 years' experience birding. This includes seven years as the dedicated bird warden and education ranger at Dawlish Warren (part of the Exe Estuary SPA/forming Dawlish Warren SSSI) and ten years' experience as a bird specialist in a consultancy role. His experience includes BBS, WBS, CBC, WeBS, vantage point surveys (land and sea), seabirds at sea surveys, visible migration counts, and recording and submitting daily bird records. He also provides specialist advice on planning applications near to protected sites, including Habitats Regulations Assessments.
- 7.4 In total, he was onsite for c.18 hours between the hours of 0900 and 2100 (i.e. daylight hours) between April and July. This time was spread across four separate visits.
- 7.5 Whilst not on site to conduct dedicated bird surveys, it would be very unlikely for a birder of this experience not to notice, either by sight or by call, notable birds during a total of c.18 hours of site work during the breeding season. The lack of evidence from these visits in addition to the data that had been obtained during the scoping WBS and BBS surveys (discussed below), confirmed that there is no value in updating the survey effort for birds. Further, given the results obtained to date we consider survey effort to be adequate to assess the impacts of the proposals.

WBS Surveys

- 7.6 As noted within the Eco App, the original WBS scoping survey recorded nine protected or notable (as per BoCC report 4⁶) species. This included dunnock, house sparrow, mistle thrush, redwing, and song thrush – all of which may use the structural habitat on site during the winter for shelter or rest.
- 7.7 Two species of gull (herring gull and lesser black-backed gull) were recorded overhead. The site would not pose a significant resource for these gulls, and as noted within the WBS survey plan included within the Eco App all gull records were of gulls in flight, rather than utilising the site itself.
- 7.8 Peregrines were recorded during the WBS scoping survey (they were also recorded during the BBS surveys and noted incidentally during other visits to site). The desk study conducted as part of the Eco App identified that this species nests in a nearby SINC. The site provides habitat only for rest for this species. There are no sufficient features for nesting/breeding and it is considered that sightings of peregrine have resulted from local birds foraging in the wider local area, rather than a particular association with the site.
- 7.9 Lastly, a single redshank was recorded flying high over the site. Redshank were not recorded on the ground on site. The habitats on site would not provide a reliable foraging resource for redshank. There was no permanent bodies of standing water and the running water bounding the north and western boundaries of the site was unsuitable for feeding.

⁶ Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (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.

- 7.10 As a result of the 2020 scoping bird survey, the site was considered to be no more than a local resource for common and widespread wintering species.
- 7.11 The update WBS survey (as detailed within the separate Addendum – Item b) provided no results that would suggest the above assessment is incorrect.

BBS Surveys

- 7.12 As noted within the Eco App, the original two BBS surveys recorded six protected or notable (as per BoCC report 4⁷) species. This included bullfinch, dunnoek, herring gull, meadow pipit, peregrine falcon and song thrush.
- 7.13 Of these species, there is no suitable habitat on site to support breeding herring gulls or peregrine.
- 7.14 The vast majority of structural habitat (plantation woodland) will be incorporated and retained within the proposals. Areas of scrub falling centrally within the site are proposed for removal. The scrub would form sub-optimal breeding habitat for bullfinch, dunnoek and song thrush. This is especially true of the more cryptic bullfinch and dunnoek. Bullfinch, dunnoek and song thrush were previously assessed as possible breeders on site. Given that the majority of suitable breeding habitat on site will be retained, there is no reason to suggest that the proposals will have a significant impact on their possible breeding status on site.
- 7.15 Meadow pipit were recorded during the BBS surveys, though none were recorded holding territory. The grassland on site does form suitable habitat for breeding. However, the site is subject to frequent disturbance by the public. Incidental observations across the various 2019/20 survey visits noted the public being on site during all daylight hours and for a period after dusk. Primarily this presence was from dog walkers, however on one occasion off road motor bikes were being ridden around the site. We consider the site to be too disturbed to support successful breeding of meadow pipits on site.
- 7.16 Based on the above we are content that the habitat providing the highest current value to nesting birds – the peripheral plantation woodland – will be in the most part retained post development and therefore impacts upon breeding birds will be low.

BTO Data Search

- 7.17 The recent Bird Survey Guidelines⁸ recommends obtaining data from the British Trust for Ornithology (BTO) as a means of scoping bird survey requirements.
- 7.18 A data request from the BTO was made for the site and immediate site area – the data was received from the BTO on 21.01.2022. The full data report has been included as an appendix within the present response – Appendix B. The purpose of the search was to retrieve data on the distribution of both breeding and non-breeding birds within the local area. We were particularly interested in trends of relative abundances of birds in the local area - Vice County (VC41) – Glamorganshire.
- 7.19 Between 1988 – 91 and 2008-11, there were 57 bird species whose relative abundance increased (or decreased less) at/near the site compared to relative abundance changes observed across the rest of Glamorganshire. Conversely, there were 19 species of which the opposite was true. The

⁷ Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (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.

⁸ Bird Survey & Assessment Steering Group. (2022). Bird Survey Guidelines for assessing ecological impacts, v.0.1.0. <https://birdsurveyguidelines.org> [09.02.2022].

data search confirmed that these 19 species were declining more or increasing less at the site compared to the rest of Glamorganshire.

- 7.20 Ten species were identified within the data as being those with the most negative difference in trend between the site and the region. The ten species are listed in column one below in Table 1. The species' Birds of Conservation Concern (BoCC) status (as updated December 2021⁹) is given in column 2. Column three presents a short assessment of the sites suitability to support the species, either as breeding or non-breeding/wintering.

Table 1: Bird species with the most negative difference in abundance trend between site and region.

Species	BoCC Status / Wildlife and Countryside Act (1981) (as amended)	Site suitability – Land of Goat Mill Road, Merthyr Tydfil
Swift	Red	No breeding or roosting suitability.
Snipe	Amber	Habitat not suitable for breeding. Site could provide occasional overwintering resource. Given levels of public disturbance this is deemed unlikely. Snipe were not recorded on either WBS scoping survey. SUDS will provide replacement suitable habitat.
Red kite	Green	Conspicuous species. No nesting red kite recorded. Site in general and retained plantation low suitability.
Kingfisher	Green / Schedule 1	No suitable habitat.
Green woodpecker	Green	Suitable habitat present. Retained woodlands and POS will continue to support nesting habitat. Species is not significant, and presence would not have changed mitigation.
Raven	Green	Conspicuous species. No nesting Ravens recorded. Retained plantation may support breeding in the future
Wood warbler	Red	No suitable habitat.
Pied flycatcher	Amber	No suitable habitat.

⁹ Stanbury, A.J., Eaton, M.A., Aebischer, N.J., Balmer, D., Brown, A.F., Douse, A., Lindley, P., McCulloch, N., Noble, D.G. & Win, I. (2021). The fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds. Volume 114.

Species	BoCC Status / Wildlife and Countryside Act (1981) (as amended)	Site suitability – Land of Goat Mill Road, Merthyr Tydfil
Dipper	Amber	No suitable habitat. Engineered streams are unsuitable for foraging.
Meadow pipit	Amber	Grassland forms suitable breeding resource. Given levels of public disturbance this is deemed unlikely.

- 7.21 The data provided by the BTO therefore confirms the site generally provides either no suitability or very low habitat suitability, for the species that are declining the most or increasing the least, in the local area. Where suitable habitat is available it is likely to be significantly impacted by disturbance from the public.

Survey Effort – Rationale and Professional Judgement

- 7.22 Based on the findings of the BBS surveys; the two scoping winter surveys (the second most recently conducted January 2022); the observations of an experienced birder on site for no less than c.18 hours over four separate days; and the BTO data which indicates the site offers little or no habitat for birds that are declining locally, there is no sound evidence supporting the need for further bird surveys (BBS and WBS).
- 7.23 Based on our professional judgement we are content that survey effort to date is adequate, and that the assessment of bird assemblage during summer and winter is appropriate. Mitigation discussed within the Eco App is therefore appropriate. Measures protecting habitat during construction and for implementing mitigation have been provided within the CLEMP (Item c).

8.0 REPTILES

- 8.1 Given the lack of reptile records made during the 2020 reptile survey of the site, we welcome the approach suggested within the LPA comments relating to reptiles. Accordingly, an approach to preventing an offence in relation to reptiles has been incorporated into the CLEMP (Item c) in the form of a Reptile Mitigation Strategy.

9.0 LEMP AND CEMP

- 9.1 Please see separate CLEMP (Item c).

10.0 PHOTOGRAPHS

- 10.1 Photographs taken on site have been provided as an appendix to the Ecological Addendum (Item b).

11.0 LAGOON

- 11.1 Details of the proposed specification of the lagoon have been discussed in the Ecological Addendum (Item b). Specifications for creation, management and maintenance of the lagoon have been provided within the CLEMP (Item c).

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APPENDICES

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APPENDIX A

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APPENDIX B

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Goat Mill Road, Merthyr Tydfil

Compiled on 20 January 2022



SUMMARY

Background	The BTO Data Report collates and analyses comprehensive (2007–2011) and contemporary (2018–2022) bird data relating to the grid squares spanned by the site: two 1-km squares, one tetrad and one 10-km square. For contextual analyses, data from these relevant squares are related to equivalent data from one vice-county, one county, one region, one country and the UK to assess species' importance in the vicinity of the site to help inform delivery of habitat mitigation, enhancement and biodiversity net gain.
Data used	Coverage of relevant squares spanned by the site from 2007–2011 is complete at the 10-km resolution and there is nil coverage of the site by timed visits and very good coverage from casual recording in the breeding season (nil and very good respectively in winter). Contemporary information for the period 2018–2022 is available from BirdTrack for 100% of tetrads (100% of 10-km squares) in the breeding season; there were no BBS squares associated with the site.
Results	During 2007–2011, 90 species with breeding evidence and 87 species in winter were recorded in the vicinity of the site at various spatial scales. Breeding season figures include nine Schedule 1 species, four Annex 1 species and 21 BoCC Red list species. During the breeding seasons of 2018–2022, 123 species were recorded in the vicinity of the site at various spatial scales. These included 17 Schedule 1 species, 10 Annex 1 species and 30 BoCC Red list species. In a regional context, the site's 10-km squares accounted for up to 6.7% of regional population size. Fifty-four species were notable in at least one region or season. In a county context, the site's 10-km squares accounted for up to 100% of county population size. Thirty-four species were notable in at least one county or season. In a vice-county context, the site's 10-km squares accounted for up to 100% of vice-county population size. Thirty-nine species were notable in at least one vice-county or season. Full details of notable species and those showing more positive population trends in the vicinity of the site compared to the wider context are given in the Report.

1. INTRODUCTION

The purpose of the BTO Data Report is to provide information on bird species associated with potential development sites at a range of spatial scales to inform desk studies for ecological impact assessments. The Report uses BTO's long-term ornithological datasets, providing [high quality](#) comprehensive and contemporary information. BTO is grateful to the volunteers who collected all the data, and to the funders and scheme partners, who are listed in Section 3 under the relevant data sources.

The species list in this report can guide the need for detailed field surveys in conjunction with [Bird Survey Guidelines](#) advice. This Report highlights the legal and conservation status assigned to each species in the relevant country. Beyond simple species lists, BTO data are uniquely able to provide context to help quantify the importance of a site and its surroundings in conservation terms. This includes assessments of the percentage of county, regional and national geographic range and population size associated with the site, plus recent population changes, offering the potential to highlight priorities for delivering habitat mitigation, enhancement and biodiversity net gain.

All maps reproduced in this report use map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under ODbL.

2. SITE, SQUARES, REGIONS AND FEATURES

2.1 Relevant grid squares

Systematic bird recording in Britain and Ireland typically involves the collection of records for 1-km, 2-km ('tetrad') or 10-km squares, or using the boundaries of user-defined sites, nature reserves and other 'popular places'. Rarely can records be definitively attributed within the boundary of proposed development sites, especially small ones.

Unless otherwise stated, all species detailed in the BTO Data Report concern species present in grid squares *intersected* by the site boundary, rather than species that are definitively *within* the site boundary. Grid squares with at least 1ha overlapping the site are referred to as 'relevant' squares.

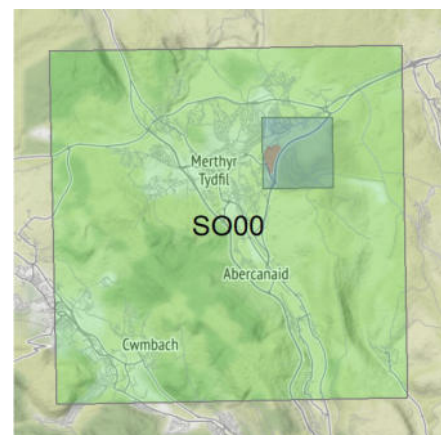
For example 'relevant tetrads' are all 2-km squares with at least 1ha overlapping the site. Data are summarised at the finest spatial scale possible, subject to the size of the site and the availability and spatial precision of BTO datasets in the vicinity of the site.

The number of relevant 1-km squares, tetrads and 10-km squares for the site are listed below. The map above shows the site in relation to relevant tetrads and relevant 10-km squares (for an equivalent map for 1-km squares, and for full lists of relevant 1-km squares, tetrads and 10-km squares, see Appendix 1).

- two relevant 1-km squares
- one relevant tetrad
- one relevant 10-km squares

For reasons of confidentiality the precise locations of certain rare breeding and wintering birds (typically those reported on by the [Rare Breeding Birds Panel](#)) cannot be revealed precisely in BTO Data Reports. For these species we follow the treatment introduced by *Bird Atlas 2007–11* where records were summarised for 20-km and 50-km squares. If any such rare breeding species have been recorded in the same 20-km or 50-km squares as the site, lists and maps of relevant 20-km and/or 50-km squares are included in Appendix 1.

All results in the BTO Data Report, especially those for larger grid resolutions, should be interpreted with respect to the habitats present on the site as some species listed may not occur within the site boundary.



2.2 Relevant county, regional and national contexts

The BTO Data Report contains contextual 'site importance' analyses that aim to highlight species for which the site and its relevant grid squares are important in local, regional, national and UK contexts. For example, does the site and its surroundings support a regionally significant population of a protected species?

National context concerns the site relative to the country it falls within. In addition to the UK (here combined with the Isle of Man and Channel Islands), the site also falls within one country: *Wales*.

Regional context concerns the site relative to the regions it falls within. For sites in Wales, regions are based on NUTS (Nomenclature of territorial units for statistics) level 2 regions. The following regions are relevant for this site: *West Wales and The Valleys*.

County context concerns the site relative to counties. The following counties are relevant for this site: *Mid Glamorgan*.

Vice-county context concerns the site relative to vice-counties. For sites in Great Britain, the Report uses Watsonian Vice-counties. The following vice-counties are relevant for this site: *Glamorganshire*.

Maps of all these areas can be found in Appendix 1. The grid squares associated with each of these area are used to determine overall range size and abundance at county, regional and national scales with which range size and abundance for the site's relevant grid squares can be calculated. Note that some individual grid squares may be associated with more than one geographical area. For more information see Section 5.

2.3 Relevant features

The BTO Data Report summarises species occurrence and abundance for species of conservation and statutory importance. In addition to the lists of species important across the UK, certain lists are of relevance in the UK's devolved administrations. The table below lists all species lists relevant for UK, Isle of Man and Channel Islands and Wales. Section 4 summarises the number of species recorded at or around the site for each of these feature lists.

Feature	Description
Schedule 1 UK	Species listed on Schedule 1 of the Wildlife and Countryside Act 1981
BoCC Red	Species on the Red list according to Birds of Conservation Concern 5 (Stanbury et al. 2021)
BoCC Amber	Species on the Amber list, according to Birds of Conservation Concern 5 (Stanbury et al. 2021)
Annex 1	Species on Annex 1 of the EU Birds Directive
IUCN2 Critically Endangered	Species listed as Critically endangered in Great Britain (Stanbury et al. 2021)
IUCN2 Endangered	Species listed as Endangered in Great Britain (Stanbury et al. 2021)
IUCN2 Near Threatened	Species listed as Near Threatened in Great Britain (Stanbury et al. 2021)
IUCN2 Vulnerable	Species listed as Vulnerable in Great Britain (Stanbury et al. 2021)
RBBP	Rare and scarce species considered by the Rare Breeding Birds Panel
Schedule ZA1 England & Wales	Species listed on Schedule ZA1 of the Wildlife and Countryside Act (England & Wales only)
Section 7 Wales	Species listed on Section 7 of the Environment (Wales) Act

3. DATA SOURCES AND COVERAGE

The BTO Data Report uses comprehensive atlas distribution data from 2007–11 to give a baseline of high-quality

information about species status at and around the site and in the wider context. This is supplemented by the latest records from current schemes, including BirdTrack and BBS. The report considers **269 species** that regularly occur in Britain and Ireland. These include **221 breeding species** and **226 wintering species**. The report includes BOU Category C established non-native species but excludes exotic non-native species (i.e. those without self-sustaining populations). Breeding species are defined as those that were recorded with confirmed breeding evidence in at least one 10-km square in Britain or Ireland in *Bird Atlas 2007–11*. Wintering species are defined as those recorded in at least fifty 10-km squares in *Bird Atlas 2007–11*, plus six rare residents that the 50-square rule excluded (e.g. Gull Bunting). Species on statutory and conservation status lists, such as Schedule 1, Birds of Conservation Concern 5, or Section 7 (Wales) are highlighted. Some lists consider subspecies or populations (e.g. Greenland White-fronted Goose, Hebridean Song Thrush) for which BTO data are not ideally suited. We therefore include the parent species in these analyses to ensure appropriate warnings are raised and dedicated surveys may be required.

Systematic bird recording often involves the assignment of 'breeding evidence' to records. Breeding evidence is hierarchical, having three levels: possible breeding, probable breeding and confirmed breeding. These are directly inferred from field observations and indicate the certainty that can be ascribed to the record that breeding is taking place at a location. For example, a bird singing in suitable territory is assigned possible breeding evidence, a bird carrying nesting material is assigned probable breeding evidence, whereas recently fledged young amounts to confirmed breeding evidence. Lack of breeding evidence (i.e. simple presence) can reflect either that the observer did not witness appropriate behaviours indicative of breeding, or that submission of breeding evidence was not mandatory for that particular data source.

Lack of breeding evidence in the data should not be assumed to indicate lack of breeding.

See below for details about each dataset and an assessment of the quantity of data relating to the site and its relevant grid squares.

3.1 Comprehensive species assessment 2007–2011

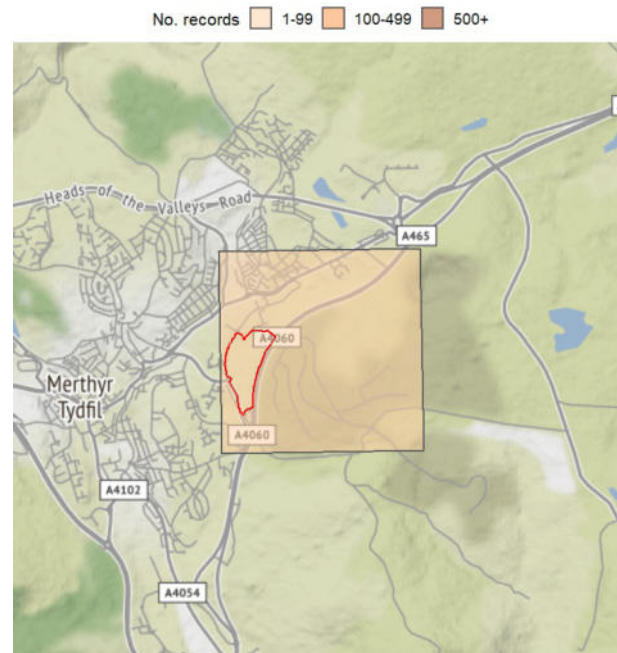


Bird Atlas 2007–11 (BTO, BirdWatch Ireland and the Scottish Ornithologists' Club) provides data at two resolutions: complete 10-km distribution datasets and sample 2-km distribution and relative abundance datasets. Although the Bird Atlas data are now 11 years old, they still provide the most recent and comprehensive assessment of bird distributions available. **All one relevant 10-km square** that the site spans will have been surveyed in winter and the breeding season to provide 10-km resolution distribution information. Unstructured data (i.e. casual records) at tetrad resolution were provided for **one relevant tetrad** in the breeding season and for **one relevant tetrad** in winter. The total numbers of records submitted across this set of tetrads in the breeding season and winter were **16 records** and **27 records** respectively.

Additionally, at least 32% of tetrads in each 10-km square received timed visits, amounting to structured data for 50089 tetrads across Britain and Ireland. Of the one relevant tetrad that the site spans, **zero** (0%) received Timed Tetrad Visits in the breeding season (0 hours of recording effort). Similarly, **zero tetrads** (0%) were visited in winter (0 hours).

Data quality control: All records have been manually verified prior to use.

Distribution of casual records (breeding)



3.2 Contemporary species assessment 2018–2022

The current species assessment is based on the following data sources.

3.2.1 Breeding Bird Survey



The UK *Breeding Bird Survey* (BBS hereafter; BTO, JNCC, RSPB) is an annual survey of over 4000 randomly selected 1-km squares across the UK. Each square is surveyed twice per breeding season, providing up to date records of bird occurrence in this c.3% sample of the UK. The BBS does not require observers to provide breeding evidence information. Consequently, all records relate to presence information; *it should not be assumed that lack of breeding evidence means species were not breeding at or near the site*. This Report queries data from the 4900 1-km squares surveyed for the BBS during 2017–2020. **None** of the relevant 1-km squares were also BBS squares, so there is no up to date information contained in the report from the BBS.

Data quality control: All records have been manually verified prior to use.

3.2.2 BirdTrack



BirdTrack (BTO, RSPB, BirdWatch Ireland, Scottish Ornithologists' Club and Welsh Ornithological Society) provides information on recent sightings of birds throughout Britain and Ireland. Unlike *Bird Atlas*, which has a structured component ensuring complete coverage of 10-km squares, *BirdTrack* is unstructured and coverage is strongly associated with the distribution and birdwatching preferences of observers. The consequent variation in recording effort means that for some areas there be less information to generate a report. A further difference from *Bird Atlas* is that observers are not required to provide breeding evidence information. Consequently, some searches may yield only presence information; it should not be assumed that lack of breeding evidence means species were not breeding at or near the site. Observers are free to birdwatch where they choose, and can provide records with varying levels of spatial precision, from pin-pointed records, to large polygons that may span multiple grid squares. The assessment includes data for the breeding season (March–July inclusive) and non-breeding season (August–February inclusive) for the last five years and is summarised with respect to the relevant grid squares, summarising records to the finest spatial precision that the records permit.

BirdTrack data were available for **100%** of the site's relevant tetrads in the breeding season (100% of 10-km squares), including data from **2021**. Data were available for **100%** of the site's relevant tetrads in winter (100% of 10-km squares), including data from **2020**.

Data quality control: Observers are warned of 'threshold breaking' records at the point of data entry (unusual place or date for a species; unusually high count) and given the opportunity to correct mistakes. Further manual verification occurs but as BirdTrack data are 'live', the verification status of individual records varies. Rejected records and any in an active state of query are excluded from the Report.

4. SPECIES LISTS

4.1 Species assessment 2007–2011

This section summarises comprehensive *Bird Atlas 2007–11* distribution data for the one relevant tetrad and one relevant 10-km square the site spans. It also considers data from the one relevant 20-km square and one relevant 50-km square for any confidential RBBP species records.

4.1.1 Breeding season

Bird Atlas 2007–11 indicate **90 species** with breeding evidence in the vicinity of the site at a range of spatial resolutions (Table 1). At the highest level of spatial resolution achievable with Bird Atlas data, 18 species were recorded with breeding evidence in the site's relevant tetrads. No confidential species were recorded with breeding evidence in any of the site's relevant 20-km or 50-km squares. See Appendix 3 for the full list of species with breeding evidence recorded in the vicinity of the site.

Table 1. Numbers of species in the breeding season recorded during 2007–11 at different spatial resolutions relative to the site. Rows give figures for all species, and according to various lists of important features. Columns indicate status in relevant grid squares of different sizes.

Species category	2-km	10-km	20-km	50-km
All species	18	72	0	0
Annex 1	0	4	0	0
BoCC Amber	7	18	0	0
BoCC Red	3	18	0	0
IUCN2 Critically Endangered	0	0	0	0
IUCN2 Endangered	1	7	0	0
IUCN2 Near Threatened	0	14	0	0
IUCN2 Vulnerable	5	7	0	0
RBBP	0	6	0	0
Schedule 1 UK	0	9	0	0
Schedule ZA1 England & Wales	0	0	0	0
Section 7 Wales	4	17	0	0

4.1.2 Winter

Bird Atlas 2007–11 indicates **87 species** were recorded in the vicinity of the site in winter at a range of spatial resolutions (Table 2). At the highest level of spatial resolution achievable with Bird Atlas data, 20 species were recorded in winter in the site's relevant tetrads. No confidential species were recorded in winter in any of the site's relevant 20-km or 50-km squares. See Appendix 3 for the full list of species recorded in the vicinity of the site.

Table 2. Numbers of species in winter during 2007–11 at different spatial resolutions relative to the site. Rows give figures for all species, and according to various lists of important features. Columns indicate status in relevant grid squares of different sizes.

Species category	2-km	10-km	20-km	50-km
All species	20	67	0	0
Annex 1	0	4	0	0
BoCC Amber	4	22	0	0
BoCC Red	5	10	0	0
IUCN2 Critically Endangered	0	3	0	0
IUCN2 Endangered	2	5	0	0
IUCN2 Near Threatened	0	8	0	0
IUCN2 Vulnerable	4	11	0	0
RBBP	0	13	0	0
Schedule 1 UK	0	12	0	0
Schedule ZA1 England & Wales	0	0	0	0
Section 7 Wales	5	10	0	0

4.2 Species assessment 2018–2022

4.2.1 Breeding season

The assessment of current species associated with the site in the breeding season is based on BBS and BirdTrack. This information summarises species with and without breeding evidence as (unlike Bird Atlas data) these data sources do not require evidence to be submitted. These sources indicate **123 species** recorded in the vicinity of the site in the breeding season at a range of spatial resolutions (Table 3). Some BirdTrack sites spanned 10-km square boundaries; any species associated with these BirdTrack sites and not present at a finer resolution are summarised in the '>10-km' column. Particular care should be taken with such records as the species could have been recorded some distance from the site. See Appendix 4 for the full list of species recorded in the vicinity of the site during 2018–2022.

Table 3. Numbers of species in the breeding season during 2018–2022 at different spatial resolutions relative to the site. Rows give figures for all species, and according to various lists of important features. Columns indicate status in relevant grid squares of different sizes.

Species category	1-km	2-km	10-km	>10-km
All species	0	34	88	1
Annex 1	0	2	8	0
BoCC Amber	0	10	30	0
BoCC Red	0	2	27	1
IUCN2 Critically Endangered	0	0	3	1
IUCN2 Endangered	0	2	12	0
IUCN2 Near Threatened	0	1	14	0
IUCN2 Vulnerable	0	5	16	0
RBBP	0	1	18	1
Schedule 1 UK	0	2	14	1
Schedule ZA1 England & Wales	0	0	0	0
Section 7 Wales	0	3	22	1

4.2.2 Non-breeding season

The assessment of current species associated with the site is based on BirdTrack and indicate **115 species** recorded in the vicinity of the site in the non-breeding season at a range of spatial resolutions (Table 4). Some BirdTrack sites spanned 10-km square boundaries; any species associated with these BirdTrack sites and not present at a finer resolution are summarised in the '>10-km' column. Particular care should be taken with such records as the species could have been recorded some distance from the site. See Appendix 4 for the full list of species recorded in the vicinity of the site during 2018–2022.

Table 4. Numbers of species in the non-breeding season during 2018–2022 at different spatial resolutions relative to the site. Rows give figures for all species, and according to various lists of important features. Columns indicate status in relevant grid squares of different sizes.

Species category	1-km	2-km	10-km	>10-km
All species	0	19	92	4
Annex 1	0	1	10	1
BoCC Amber	0	5	32	3
BoCC Red	0	1	23	0
IUCN2 Critically Endangered	0	0	5	0
IUCN2 Endangered	0	0	16	2
IUCN2 Near Threatened	0	0	10	0
IUCN2 Vulnerable	0	6	14	0
RBBP	0	0	24	2
Schedule 1 UK	0	1	14	1
Schedule ZA1 England & Wales	0	0	0	0
Section 7 Wales	0	3	16	0

5. SITE IMPORTANCE

A site may be important if it supports a high proportion of a species' local, regional or national population, or if its population trends are more positive at the site compared to elsewhere. Whilst data are not available at sufficiently fine scales to assess the site itself (see Section 2), here we used *Bird Atlas 2007–11* distribution and relative abundance data for relevant 10-km squares to assess the area in which the site falls.

For each species we express its range and population size in the vicinity of the site relative to the total range size and population size in different geographic contexts, ranging from vice-counties and counties, through regions, to countries. This requires determining how many of the relevant 10-km squares spanned by the site are occupied (e.g. one) and how many 10-km squares in the larger region are occupied (e.g. 20); in this case the site and its vicinity account for 5% ($= 1/20$) of the species' range in the region. As large sites will tend to account for a higher percentage of range than small sites, such figures need to be bench-marked to allow comparability across sites. This requires knowing how many of the site's relevant 10-km squares fall in the region (e.g. one) and the total number of 10-km squares in the region (e.g. 100); in this case the site's 'percentage size' is 1% ($= 1/100$). We define **Notable species** as those for which the percentage range is at least twice the site's percentage size. In the above examples the percentage range (5%) is more than double the site's percentage size (1%) so the species would be highlighted as Notable. The exception to this rule is at the scale of United Kingdom where we mark species as **Notable** if the site and vicinity account for 2% or more of the species' UK range.

Distribution data are available for all species for the above analysis. However, distribution data ignore the fact that some species vary widely in abundance within their range. Therefore, to supplement the results above, we undertake a similar exercise using relative abundance data which can help to highlight species for which the site and its vicinity is a particular hot-spot of locally, regionally or nationally high density. *Bird Atlas 2007–11* data give a relative density measure for each terrestrial species in each 10-km square (**colonial seabirds are excluded**). These can be summarised in the same way as distribution data to estimate the percentage of the region's population size found at the site and its vicinity. Calculations of percentages and derivation of Notable species are as above.

Lastly, breeding season relative abundance data are available for two periods, 1988–91 and 2008–11, allowing for an assessment of relative abundance change for terrestrial bird species over this interval for the site and its vicinity (**colonial seabirds are excluded**). By comparing such values with corresponding change measures for the wider region we can identify species for which the site and its vicinity has had more positive population trends (i.e. increasing more than elsewhere, or declining less). This may indicate that the 10-km squares in which the site falls are an important refuge for these species in a local, regional or national context. When interpreted alongside the species lists in Section 4 and the result of any commissioned field surveys, these results can help to identify species for which the site may be particularly important. For very small sites spanning only a single 10-km square these results should be interpreted with caution.

It is important to remember that all these calculations use 10-km resolution data so relate to the site and its vicinity, not strictly to the site alone.

5.1 Country: UK, Isle of Man and Channel Islands

Overall, one of the 10-km squares that include the site fall in UK, Isle of Man and Channel Islands, accounting for 0.033% of 10-km squares in UK, Isle of Man and Channel Islands. According to *Bird Atlas* data, these squares support between 0% and 0.3% of the geographic range in UK, Isle of Man and Channel Islands of all the species considered (breeding and winter combined). In terms of abundance, these squares represent between 0% and 1.8% of the total population size in UK, Isle of Man and Channel Islands. In the context of the United Kingdom, **notable species** are defined as those for which the site's relevant 10-km squares account for at least 2% of geographic range in the UK. If any species qualify they are listed below, with those on the **BoCC Red List** and **BoCC Amber List** highlighted in corresponding colour:

- Breeding range, zero species:
- Winter range, zero species:
- Breeding abundance, zero species:
- Winter abundance, zero species:

Between 1988–91 and 2008–11, there were 58 species for which relative abundance increased more (or decreased less) at/near the site compared to the relative abundance changes apparent across the rest of UK, Isle of Man and Channel Islands. The ten species with the most positive difference in trend between site and region are listed below and all species can be seen in Figure 5.1 in Appendix 5.

- Woodpigeon, Grey Heron, Willow Warbler, Nuthatch, Song Thrush, Mistle Thrush, Dunnock, Linnet, Lesser Redpoll, Siskin

There were 18 species for which the opposite was the case, i.e. that they were declining more (or increasing less) at/near the site compared to the rest of UK, Isle of Man and Channel Islands. The ten species with the most negative difference in trend between site and region were:

- Swift, Red Kite, Green Woodpecker, Jackdaw, Raven, Blue Tit, Wood Warbler, Pied Flycatcher, Redstart, Meadow Pipit

5.2 Country: Wales

Overall, one of the 10-km squares that include the site fall in Wales, accounting for 0.36% of 10-km squares in Wales. According to *Bird Atlas* data, these squares support between 0.4% and 2.7% of the geographic range in Wales of all the species considered (breeding and winter combined). In terms of abundance, these squares represent between 0% and 5.2% of the total population size in Wales. **Notable species** for Wales are listed below, with those on the **BoCC Red List** and **BoCC Amber List** highlighted in corresponding colour:

- Breeding range, 14 species: Greylag Goose, Water Rail, Little Ringed Plover, Snipe, Herring Gull, Lesser Black-backed Gull, Goshawk, Merlin, Hobby, Willow Tit, Reed Warbler, Ring Ouzel, Whinchat, Common Crossbill
- Winter range, 12 species: Greylag Goose, Pochard, Goldeneye, Water Rail, Great Crested Grebe, Jack Snipe, Green Sandpiper, Hen Harrier, Waxwing, Willow Tit, Cetti's Warbler, Chiffchaff
- Breeding abundance, 23 species: Mallard, Cuckoo, Rock Dove, Snipe, Grey Heron, Sparrowhawk, Goshawk, Tawny Owl, Green Woodpecker, Merlin, Coal Tit, Willow Warbler, Grasshopper Warbler, Nuthatch, Starling, Ring Ouzel, Whinchat, Dipper, Grey Wagtail, Tree Pipit, Bullfinch, Lesser Redpoll, Siskin
- Winter abundance, 18 species: Mallard, Tufted Duck, Goldeneye, Goosander, Rock Dove, Woodpigeon, Goshawk, Barn Owl, Tawny Owl, Green Woodpecker, Coal Tit, Long-tailed Tit, Treecreeper, Fieldfare, Dipper, Grey Wagtail, Bullfinch, Lesser Redpoll

Between 1988–91 and 2008–11, there were 58 species for which relative abundance increased more (or decreased less) at/near the site compared to the relative abundance changes apparent across the rest of Wales. The ten species with the most positive difference in trend between site and region are listed below and all species can be seen in Figure 5.2 in Appendix 5.

- Woodpigeon, Curlew, Grey Heron, Willow Warbler, Nuthatch, Song Thrush, Dunnock, Linnet, Lesser Redpoll, Siskin

There were 18 species for which the opposite was the case, i.e. that they were declining more (or increasing less) at/near the site compared to the rest of Wales. The ten species with the most negative difference in trend between

site and region were:

- **Swift**, Red Kite, Kingfisher, Green Woodpecker, Raven, Blue Tit, **Wood Warbler**, **Pied Flycatcher**, **Redstart**, **Meadow Pipit**

5.3 Region: West Wales and The Valleys

Overall, one of the 10-km squares that include the site fall in West Wales and The Valleys, accounting for 0.48% of 10-km squares in West Wales and The Valleys. According to *Bird Atlas* data, these squares support between 0.5% and 3.7% of the geographic range in West Wales and The Valleys of all the species considered (breeding and winter combined). In terms of abundance, these squares represent between 0% and 6.7% of the total population size in West Wales and The Valleys. **Notable species** for West Wales and The Valleys are listed below, with those on the **BoCC Red List** and **BoCC Amber List** highlighted in corresponding colour:

- Breeding range, 17 species: **Greylag Goose**, Water Rail, Coot, **Lapwing**, Little Ringed Plover, **Curlew**, **Snipe**, **Lesser Black-backed Gull**, Goshawk, Kingfisher, **Merlin**, Hobby, **Willow Tit**, Reed Warbler, **Ring Ouzel**, **Whinchat**, Common Crossbill
- Winter range, 14 species: **Greylag Goose**, **Pochard**, Water Rail, Great Crested Grebe, Jack Snipe, **Green Sandpiper**, **Hen Harrier**, Green Woodpecker, Waxwing, **Willow Tit**, Cetti's Warbler, Chiffchaff, Blackcap, Common Crossbill
- Breeding abundance, 28 species: **Mallard**, **Cuckoo**, Rock Dove, **Snipe**, Grey Heron, **Sparrowhawk**, Goshawk, **Tawny Owl**, Green Woodpecker, **Merlin**, Coal Tit, Long-tailed Tit, **Willow Warbler**, **Grasshopper Warbler**, Nuthatch, Treecreeper, **Starling**, **Song Thrush**, **Mistle Thrush**, Blackbird, **Ring Ouzel**, **Whinchat**, **Dipper**, **Grey Wagtail**, **Tree Pipit**, **Bullfinch**, **Lesser Redpoll**, Siskin
- Winter abundance, 18 species: **Mallard**, **Goldeneye**, Goosander, Rock Dove, **Woodpigeon**, Goshawk, Barn Owl, **Tawny Owl**, Green Woodpecker, Coal Tit, Long-tailed Tit, Nuthatch, Treecreeper, **Fieldfare**, **Dipper**, **Grey Wagtail**, **Bullfinch**, **Lesser Redpoll**

Between 1988–91 and 2008–11, there were 61 species for which relative abundance increased more (or decreased less) at/near the site compared to the relative abundance changes apparent across the rest of West Wales and The Valleys. The ten species with the most positive difference in trend between site and region are listed below and all species can be seen in Figure 5.3 in Appendix 5.

- **Woodpigeon**, **Curlew**, Grey Heron, **Willow Warbler**, Nuthatch, **Song Thrush**, **Dunnock**, **Linnet**, **Lesser Redpoll**, Siskin

There were 15 species for which the opposite was the case, i.e. that they were declining more (or increasing less) at/near the site compared to the rest of West Wales and The Valleys. The ten species with the most negative difference in trend between site and region were:

- **Swift**, **Snipe**, Red Kite, Kingfisher, Green Woodpecker, Raven, Blue Tit, **Wood Warbler**, **Redstart**, **Meadow Pipit**

5.4 County: Mid Glamorgan

Overall, one of the 10-km squares that include the site fall in Mid Glamorgan, accounting for 5.6% of 10-km squares in Mid Glamorgan. According to *Bird Atlas* data, these squares support between 5.6% and 33.3% of the geographic range in Mid Glamorgan of all the species considered (breeding and winter combined). In terms of abundance, these squares represent between 0.5% and 100% of the total population size in Mid Glamorgan. **Notable species** for Mid Glamorgan are listed below, with those on the **BoCC Red List** and **BoCC Amber List** highlighted in corresponding colour:

- Breeding range, 10 species: **Greylag Goose**, Water Rail, Little Ringed Plover, **Curlew**, **Snipe**, **Herring Gull**, **Merlin**, Hobby, **Willow Tit**, **Ring Ouzel**
- Winter range, seven species: **Greylag Goose**, **Goldeneye**, Water Rail, Great Crested Grebe, **Great Black-backed Gull**, **Willow Tit**, Cetti's Warbler
- Breeding abundance, 18 species: Canada Goose, **Mallard**, **Cuckoo**, Rock Dove, **Curlew**, **Snipe**, **Sparrowhawk**, Goshawk, **Tawny Owl**, **Merlin**, Sand Martin, **Grasshopper Warbler**, Treecreeper, **Ring Ouzel**, **Whinchat**, **Tree Pipit**, **Lesser Redpoll**, Siskin

- Winter abundance, 13 species: **Wigeon**, **Mallard**, **Goldeneye**, Goosander, Rock Dove, **Woodpigeon**, Goshawk, Barn Owl, **Tawny Owl**, Raven, Treecreeper, **Fieldfare**, **Lesser Redpoll**

Between 1988–91 and 2008–11, there were 50 species for which relative abundance increased more (or decreased less) at/near the site compared to the relative abundance changes apparent across the rest of Mid Glamorgan. The ten species with the most positive difference in trend between site and region are listed below and all species can be seen in Figure 5.4 in Appendix 5.

- **Woodpigeon**, **Curlew**, Grey Heron, Great Tit, **Willow Warbler**, Nuthatch, Treecreeper, **Dunnock**, **Linnet**, **Lesser Redpoll**

There were 25 species for which the opposite was the case, i.e. that they were declining more (or increasing less) at/near the site compared to the rest of Mid Glamorgan. The ten species with the most negative difference in trend between site and region were:

- **Swift**, Kingfisher, Green Woodpecker, Raven, **Skylark**, Swallow, **Wood Warbler**, **Pied Flycatcher**, **Dipper**, **Meadow Pipit**

5.5 Vice-county: Glamorganshire

Overall, one of the 10-km squares that include the site fall in Glamorganshire, accounting for 2.4% of 10-km squares in Glamorganshire. According to *Bird Atlas* data, these squares support between 2.4% and 20% of the geographic range in Glamorganshire of all the species considered (breeding and winter combined). In terms of abundance, these squares represent between 0.1% and 100% of the total population size in Glamorganshire. **Notable species** for Glamorganshire are listed below, with those on the **BoCC Red List** and **BoCC Amber List** highlighted in corresponding colour:

- Breeding range, 12 species: **Greylag Goose**, Water Rail, Little Ringed Plover, **Curlew**, **Snipe**, Goshawk, **Merlin**, Hobby, **Willow Tit**, **Ring Ouzel**, **Pied Flycatcher**, **Whinchat**
- Winter range, four species: **Green Sandpiper**, Waxwing, **Willow Tit**, Cetti's Warbler
- Breeding abundance, 24 species: Canada Goose, **Mallard**, **Cuckoo**, Rock Dove, **Curlew**, **Snipe**, **Sparrowhawk**, Goshawk, **Tawny Owl**, **Merlin**, Coal Tit, Sand Martin, **Willow Warbler**, **Grasshopper Warbler**, Nuthatch, Treecreeper, **Ring Ouzel**, **Spotted Flycatcher**, **Pied Flycatcher**, **Whinchat**, **Dipper**, **Tree Pipit**, **Lesser Redpoll**, **Siskin**
- Winter abundance, 12 species: **Goldeneye**, Goosander, Rock Dove, **Woodpigeon**, Goshawk, Barn Owl, **Tawny Owl**, Raven, Long-tailed Tit, Treecreeper, **Fieldfare**, **Lesser Redpoll**

Between 1988–91 and 2008–11, there were 57 species for which relative abundance increased more (or decreased less) at/near the site compared to the relative abundance changes apparent across the rest of Glamorganshire. The ten species with the most positive difference in trend between site and region are listed below and all species can be seen in Figure 5.5 in Appendix 5.

- **Woodpigeon**, Grey Heron, Buzzard, Great Tit, **Willow Warbler**, Nuthatch, **Song Thrush**, **Dunnock**, **Linnet**, **Siskin**

There were 19 species for which the opposite was the case, i.e. that they were declining more (or increasing less) at/near the site compared to the rest of Glamorganshire. The ten species with the most negative difference in trend between site and region were:

- **Swift**, **Snipe**, Red Kite, Kingfisher, Green Woodpecker, Raven, **Wood Warbler**, **Pied Flycatcher**, **Dipper**, **Meadow Pipit**

APPENDICES

Appendix 1. Contextual maps

Maps of the site with reference to geographical context areas at different scales, and for different sized grids used for data extraction. Note that for some of the larger context areas the site may be too small to see on the map.

Country

Country = UK, Isle of Man and Channel Islands, Wales



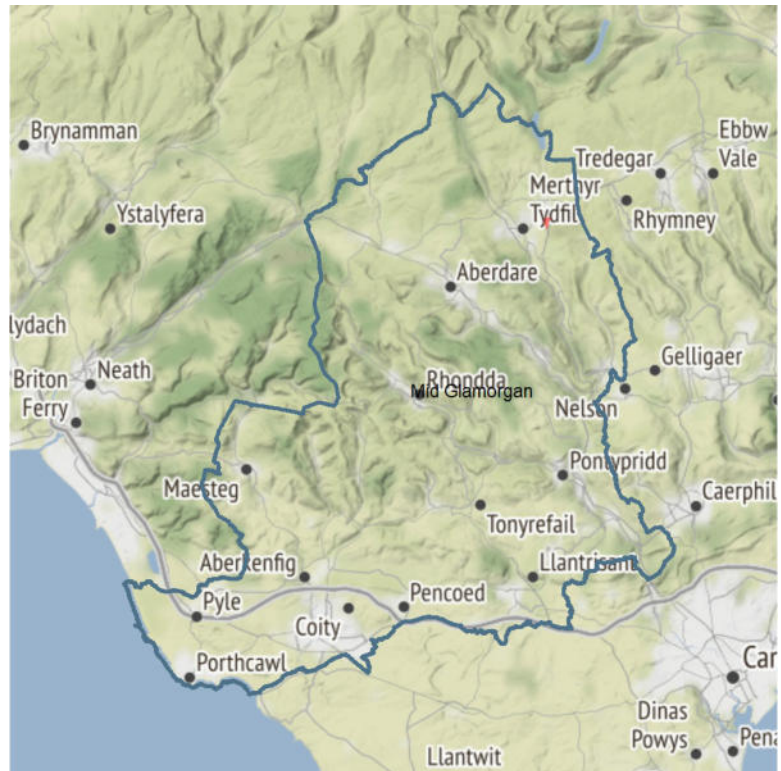
Region

Region = West Wales and The Valleys



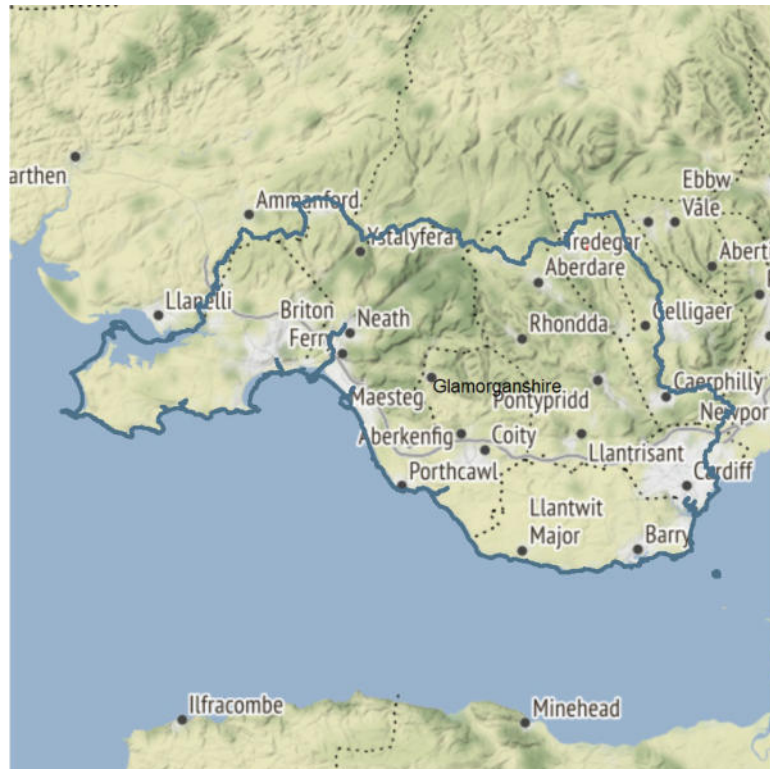
County

County = Mid Glamorgan



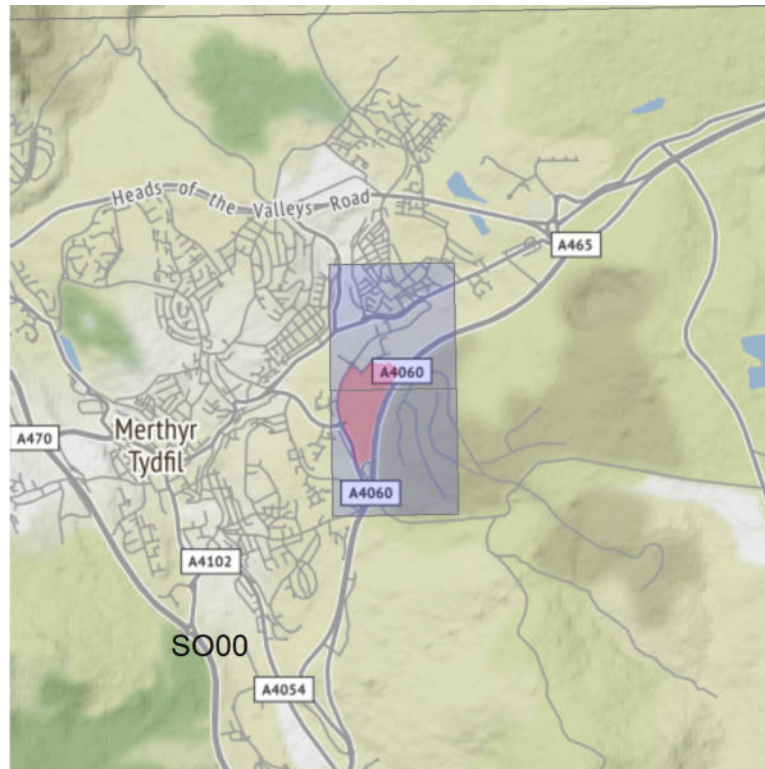
Vice-county

Vice-county = Glamorganshire



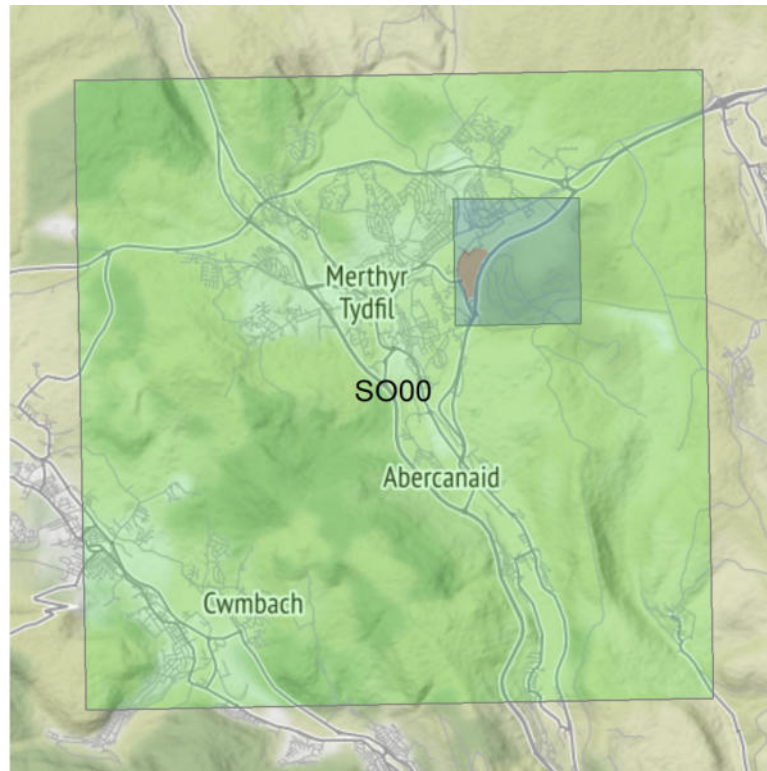
Site with 1-km squares

Two relevant 1-km squares : SO0606, SO0607



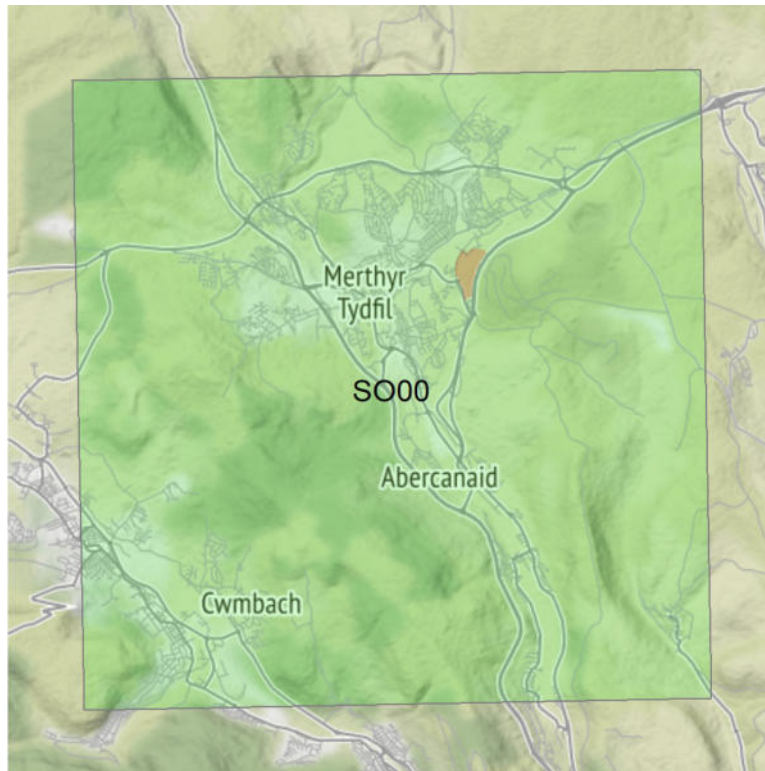
Site with tetrads

One relevant tetrad : SO00T



Site with 10-km squares

One relevant 10-km square : SO00

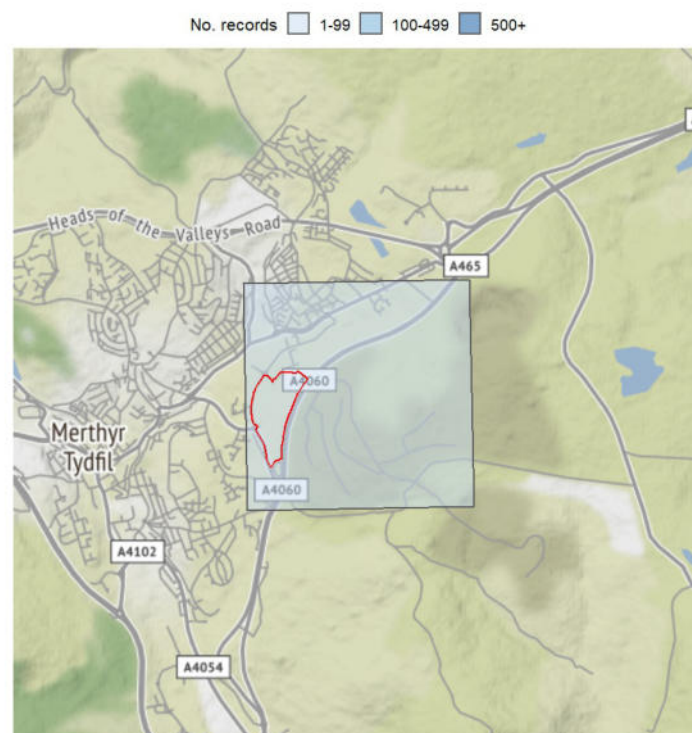


Appendix 2. Additional coverage maps

Atlas winter coverage

Map of unstructured Bird Atlas coverage in winter

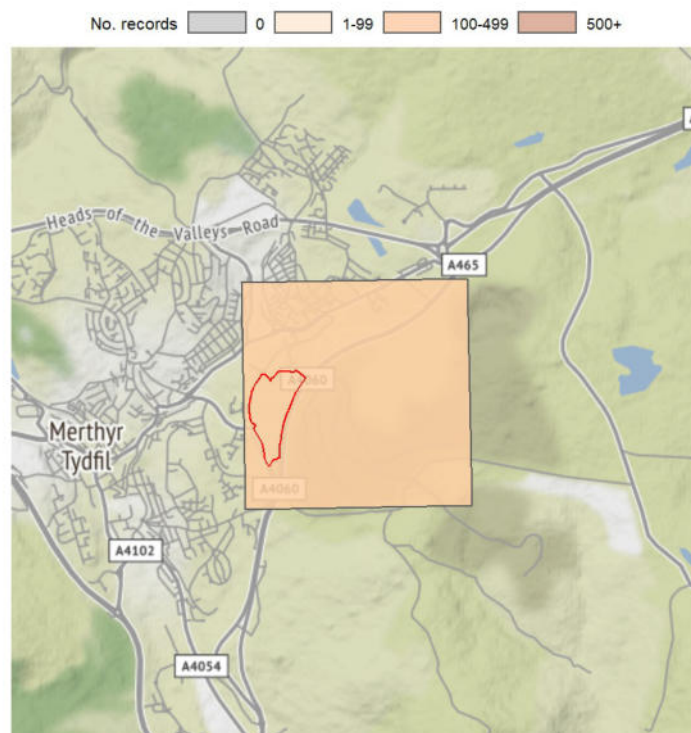
Distribution of casual records (winter)



BirdTrack coverage

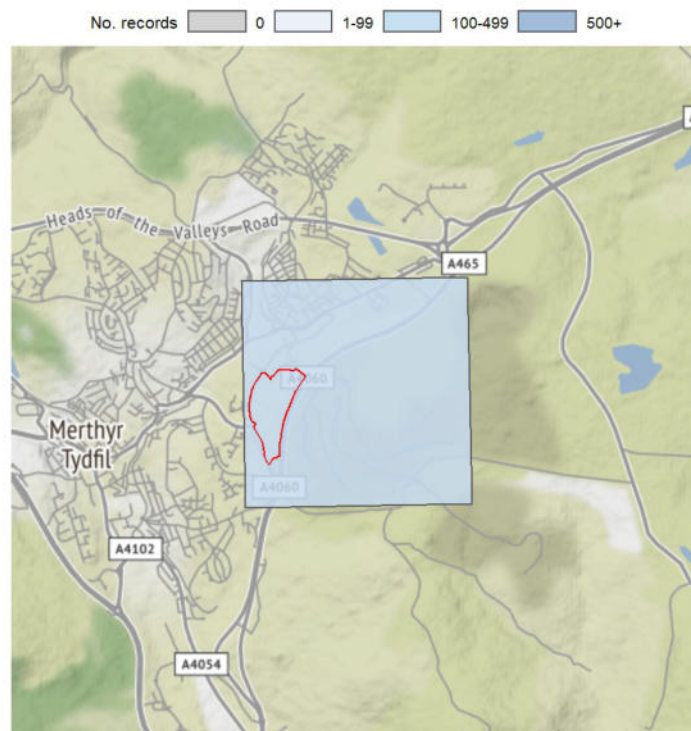
Map of BirdTrack recording effort in the breeding season. Grey shading indicates no sites centred in the tetrad, although sites from bordering tetrads may have extended into the tetrad.

Distribution of BirdTrack records (breeding)



Map of BirdTrack recording effort in the non-breeding season. Grey shading indicates no sites centred in the tetrad, although sites from bordering tetrads may have extended into the tetrad.

Distribution of BirdTrack records (non-breeding)



Appendix 3. Species list 2007–11

Feature column heading abbreviations: S1 = Schedule 1 UK; A1 = Annex 1; Amber, Red = BoCC5 Amber and Red list; CR, EN, NT, VU = GB IUCN2 Critically Endangered, Endangered, Near Threatened and Vulnerable; S41E = Section 41 England; SZA1EW = Schedule ZA1 England & Wales; S1AS = Schedule 1A Scotland; SA1S = Schedule A1 Scotland; SBL = Scottish Biodiversity List; S7W = Section 7 Wales.

Breeding season

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	SZA1EW	S7W	Tetrad	10-km/20-km/50-km
CG	Canada Goose													Confirmed
GJ	Greylag Goose			Y										Confirmed
MA	Mallard			Y				Y					Confirmed	Confirmed
PH	Pheasant													Probable
SI	Swift		Y			Y								Confirmed
CK	Cuckoo		Y									Y		Confirmed
DV	Rock Dove													Probable
SD	Stock Dove			Y										Possible
WP	Woodpigeon			Y									Possible	Confirmed
CD	Collared Dove						Y							Confirmed
WA	Water Rail													Possible
MH	Moorhen			Y				Y						Confirmed
CO	Coot							Y					Confirmed	Confirmed
LG	Little Grebe													Probable
L.	Lapwing		Y					Y				Y		Confirmed
LP	Little Ringed Plover	Y								Y				Probable
CU	Curlew		Y			Y						Y		Confirmed
SN	Snipe			Y				Y						Probable
HG	Herring Gull		Y			Y						Y		Confirmed
LB	Lesser Black-backed Gull			Y										Confirmed
H.	Grey Heron							Y						Confirmed
SH	Sparrowhawk			Y				Y					Possible	Confirmed
GI	Goshawk	Y					Y			Y				Confirmed
KT	Red Kite	Y							Y					Probable
BZ	Buzzard													Confirmed
BO	Barn Owl	Y												Possible
TO	Tawny Owl			Y			Y							Confirmed
KF	Kingfisher	Y						Y	Y					Confirmed
GS	Great Spotted Woodpecker													Confirmed
G.	Green Woodpecker						Y							Confirmed
K.	Kestrel			Y				Y				Y	Probable	Confirmed
ML	Merlin	Y	Y			Y			Y	Y				Possible
HY	Hobby	Y					Y			Y				Confirmed
PE	Peregrine	Y							Y	Y				Confirmed
J.	Jay													Confirmed
MG	Magpie													Confirmed
JD	Jackdaw												Possible	Confirmed
RO	Rook			Y			Y							Confirmed

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	SZA1EW	S7W	Tetrad	10-km/20-km/50-km
C.	Carrion Crow												Possible	Confirmed
RN	Raven													Confirmed
CT	Coal Tit													Confirmed
WT	Willow Tit		Y			Y				Y		Y		Confirmed
BT	Blue Tit													Confirmed
GT	Great Tit													Confirmed
S.	Skylark		Y									Y	Possible	Confirmed
SM	Sand Martin													Confirmed
SL	Swallow							Y					Possible	Confirmed
HM	House Martin		Y				Y							Confirmed
LT	Long-tailed Tit													Confirmed
WO	Wood Warbler		Y					Y				Y		Probable
WW	Willow Warbler			Y									Possible	Confirmed
CC	Chiffchaff												Possible	Confirmed
SW	Sedge Warbler			Y			Y							Confirmed
RW	Reed Warbler													Confirmed
GH	Grasshopper Warbler		Y									Y		Probable
BC	Blackcap													Confirmed
GW	Garden Warbler													Confirmed
WH	Whitethroat			Y										Confirmed
GC	Goldcrest													Confirmed
WR	Wren			Y										Confirmed
NH	Nuthatch													Confirmed
TC	Treecreeper													Confirmed
SG	Starling		Y					Y				Y		Confirmed
ST	Song Thrush			Y								Y		Confirmed
M.	Mistle Thrush		Y				Y							Confirmed
B.	Blackbird												Possible	Confirmed
RZ	Ring Ouzel		Y				Y					Y		Possible
SF	Spotted Flycatcher		Y				Y					Y		Probable
R.	Robin												Possible	Confirmed
PF	Pied Flycatcher			Y			Y					Y		Confirmed
RT	Redstart			Y										Confirmed
WC	Whinchat		Y				Y							Confirmed
SC	Stonechat													Confirmed
W.	Wheatear			Y		Y							Possible	Confirmed
DI	Dipper			Y										Confirmed
HS	House Sparrow		Y									Y	Confirmed	Confirmed
D.	Dunnock			Y								Y		Confirmed
GL	Grey Wagtail			Y			Y							Confirmed
PW	Pied Wagtail													Confirmed
MP	Meadow Pipit			Y									Probable	Confirmed
TP	Tree Pipit		Y									Y		Confirmed
CH	Chaffinch					Y								Confirmed
BF	Bullfinch			Y								Y		Confirmed
GR	Greenfinch		Y			Y								Confirmed
LI	Linnet		Y									Y	Possible	Confirmed

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	SZA1EW	S7W	Tetrad	10-km/20-km/50-km
LR	Lesser Redpoll		Y									Y		Confirmed
CR	Common Crossbill	Y												Confirmed
GO	Goldfinch												Possible	Confirmed
SK	Siskin													Confirmed
RB	Reed Bunting			Y								Y		Confirmed

Winter

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	SZA1EW	S7W	Tetrad	10-km/20-km/50-km
CG	Canada Goose													Present
GJ	Greylag Goose			Y										Present
WN	Wigeon			Y				Y		Y				Present
MA	Mallard			Y				Y						Present
T.	Teal			Y									Present	Present
PO	Pochard		Y			Y				Y				Present
TU	Tufted Duck							Y						Present
GN	Goldeneye		Y					Y		Y				Present
GD	Goosander													Present
PH	Pheasant													Present
DV	Rock Dove												Present	Present
SD	Stock Dove			Y										Present
WP	Woodpigeon			Y										Present
CD	Collared Dove						Y							Present
WA	Water Rail													Present
MH	Moorhen			Y				Y						Present
CO	Coot							Y					Present	Present
LG	Little Grebe													Present
GG	Great Crested Grebe													Present
L.	Lapwing		Y					Y				Y	Present	Present
WK	Woodcock		Y					Y						Present
JS	Jack Snipe									Y				Present
SN	Snipe			Y				Y						Present
GE	Green Sandpiper	Y		Y	Y					Y				Present
BH	Black-headed Gull			Y				Y				Y		Present
CM	Common Gull			Y										Present
GB	Great Black-backed Gull			Y		Y								Present
HG	Herring Gull		Y			Y						Y	Present	Present
LB	Lesser Black-backed Gull			Y									Present	Present
CA	Cormorant						Y							Present
H.	Grey Heron							Y						Present
SH	Sparrowhawk			Y				Y						Present
GI	Goshawk	Y					Y			Y				Present
HH	Hen Harrier	Y	Y			Y			Y	Y		Y		Present
KT	Red Kite	Y							Y					Present
BZ	Buzzard												Present	Present
BO	Barn Owl	Y												Present
TO	Tawny Owl			Y			Y							Present
KF	Kingfisher	Y						Y	Y					Present
GS	Great Spotted Woodpecker													Present
G.	Green Woodpecker						Y							Present
K.	Kestrel			Y				Y				Y	Present	Present
PE	Peregrine	Y							Y	Y				Present
J.	Jay													Present
MG	Magpie												Present	Present

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	SZA1EW	S7W	Tetrad	10-km/20-km/50-km
JD	Jackdaw												Present	Present
RO	Rook			Y			Y							Present
C.	Carrion Crow												Present	Present
RN	Raven													Present
WX	Waxwing									Y				Present
CT	Coal Tit													Present
WT	Willow Tit		Y			Y				Y		Y		Present
BT	Blue Tit												Present	Present
GT	Great Tit												Present	Present
S.	Skylark		Y									Y		Present
CW	Cetti's Warbler		Y											Present
LT	Long-tailed Tit												Present	Present
CC	Chiffchaff													Present
BC	Blackcap													Present
GC	Goldcrest													Present
WR	Wren			Y									Present	Present
NH	Nuthatch													Present
TC	Treecreeper													Present
SG	Starling		Y					Y				Y	Present	Present
ST	Song Thrush			Y								Y		Present
M.	Mistle Thrush		Y				Y							Present
RE	Redwing		Y		Y	Y				Y				Present
B.	Blackbird												Present	Present
FF	Fieldfare		Y	Y		Y				Y				Present
R.	Robin												Present	Present
SC	Stonechat													Present
DI	Dipper			Y										Present
HS	House Sparrow		Y									Y	Present	Present
D.	Dunnock			Y								Y		Present
GL	Grey Wagtail			Y			Y							Present
PW	Pied Wagtail													Present
MP	Meadow Pipit			Y										Present
CH	Chaffinch					Y								Present
BL	Brambling		Y							Y				Present
BF	Bullfinch			Y								Y		Present
GR	Greenfinch		Y			Y							Present	Present
LI	Linnet		Y									Y		Present
LR	Lesser Redpoll		Y									Y		Present
CR	Common Crossbill		Y											Present
GO	Goldfinch													Present
SK	Siskin													Present
RB	Reed Bunting			Y								Y		Present

Appendix 4. Species list 2018–2022

Feature column heading abbreviations: S1 = Schedule 1 UK; A1 = Annex 1; Amber, Red = BoCC5 Amber and Red list; CR, EN, NT, VU = GB IUCN2 Critically Endangered, Endangered, Near Threatened and Vulnerable; S41E = Section 41 England; SZA1EW = Schedule ZA1 England & Wales; S1AS = Schedule 1A Scotland; SA1S = Schedule A1 Scotland; SBL = Scottish Biodiversity List; S7W = Section 7 Wales.

Breeding season

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	SZA1EW	S7W	1-km	2-km	10-km	>10-km
CG	Canada Goose														Confirmed	
GJ	Greylag Goose			Y											Confirmed	
MS	Mute Swan														Confirmed	
EG	Egyptian Goose														Present	
SV	Shoveler			Y						Y					Present	
GA	Gadwall			Y											Present	
WN	Wigeon			Y				Y		Y					Present	
MA	Mallard			Y				Y					Present		Confirmed	
T.	Teal			Y											Probable	
TU	Tufted Duck							Y							Present	
CX	Common Scoter	Y	Y		Y					Y		Y				Present
GN	Goldeneye		Y					Y		Y					Present	
GD	Goosander														Probable	Possible
PH	Pheasant														Present	
NJ	Nightjar			Y					Y			Y			Present	
SI	Swift		Y			Y									Present	
CK	Cuckoo		Y										Y		Probable	
DV	Rock Dove														Probable	
SD	Stock Dove			Y											Present	
WP	Woodpigeon			Y									Present		Confirmed	
CD	Collared Dove						Y								Probable	Confirmed
WA	Water Rail														Confirmed	
MH	Moorhen			Y				Y							Confirmed	
CO	Coot							Y					Present		Confirmed	
LG	Little Grebe												Present		Confirmed	
GG	Great Crested Grebe														Confirmed	
OC	Oystercatcher			Y				Y							Present	
L.	Lapwing		Y					Y				Y			Confirmed	
RP	Ringed Plover		Y					Y				Y			Present	
LP	Little Ringed Plover	Y								Y					Confirmed	
WM	Whimbrel	Y	Y			Y				Y					Present	
CU	Curlew		Y			Y						Y			Probable	
BW	Black-tailed Godwit	Y	Y			Y				Y					Present	
DN	Dunlin		Y					Y	Y						Probable	
WK	Woodcock		Y					Y							Present	
SN	Snipe			Y				Y							Probable	
CS	Common Sandpiper			Y			Y								Present	
GE	Green Sandpiper	Y		Y	Y					Y					Present	

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	SZA1EW	S7W	1-km	2-km	10-km	>10-km
RK	Redshank			Y				Y							Present	
BH	Black-headed Gull			Y				Y				Y			Probable	
CM	Common Gull			Y											Probable	
GB	Great Black-backed Gull			Y		Y									Present	
HG	Herring Gull		Y			Y						Y			Probable	
LB	Lesser Black-backed Gull			Y										Present	Probable	
CA	Cormorant						Y								Present	
H.	Grey Heron							Y							Confirmed	
ET	Little Egret								Y	Y					Present	
SH	Sparrowhawk			Y				Y						Present	Present	Confirmed
GI	Goshawk	Y				Y				Y					Confirmed	
MR	Marsh Harrier	Y		Y					Y	Y					Present	
HH	Hen Harrier	Y	Y			Y			Y	Y		Y			Present	
KT	Red Kite	Y							Y					Present	Probable	
BZ	Buzzard													Present	Probable	
LO	Little Owl														Probable	
SE	Short-eared Owl			Y		Y			Y	Y					Possible	
TO	Tawny Owl			Y			Y								Confirmed	
KF	Kingfisher	Y						Y	Y						Probable	
GS	Great Spotted Woodpecker													Present	Confirmed	
G.	Green Woodpecker						Y								Confirmed	
K.	Kestrel			Y				Y				Y		Present	Probable	
ML	Merlin	Y	Y			Y			Y	Y					Present	
HY	Hobby	Y					Y			Y					Present	
PE	Peregrine	Y							Y	Y				Present	Present	
J.	Jay													Present	Confirmed	
MG	Magpie													Present	Confirmed	
JD	Jackdaw													Present	Probable	
RO	Rook			Y			Y								Present	
C.	Carion Crow													Confirmed	Confirmed	Possible
RN	Raven													Present	Confirmed	
CT	Coal Tit													Confirmed	Confirmed	
WT	Willow Tit		Y			Y				Y		Y			Possible	Confirmed
BT	Blue Tit													Present	Confirmed	
GT	Great Tit													Present	Confirmed	
S.	Skylark		Y									Y			Confirmed	
SM	Sand Martin														Confirmed	
SL	Swallow							Y						Present	Confirmed	
HM	House Martin		Y				Y								Confirmed	Present
CW	Cetti's Warbler	Y													Possible	
LT	Long-tailed Tit													Present	Confirmed	
WO	Wood Warbler		Y					Y				Y			Possible	
WW	Willow Warbler			Y										Present	Confirmed	
CC	Chiffchaff													Possible	Confirmed	
SW	Sedge Warbler			Y			Y								Probable	
RW	Reed Warbler														Confirmed	
GH	Grasshopper Warbler	Y										Y			Possible	

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	SZA1EW	S7W	1-km	2-km	10-km	>10-km
BC	Blackcap														Confirmed	
GW	Garden Warbler														Confirmed	
LW	Lesser Whitethroat														Possible	
WH	Whitethroat			Y											Confirmed	
GC	Goldcrest														Probable	Confirmed
WR	Wren			Y									Possible		Confirmed	
NH	Nuthatch														Confirmed	
TC	Treecreeper														Confirmed	
SG	Starling		Y					Y				Y			Confirmed	
ST	Song Thrush			Y								Y		Present	Confirmed	
M.	Mistle Thrush		Y				Y							Present	Confirmed	
RE	Redwing	Y		Y	Y					Y					Present	
B.	Blackbird													Present	Confirmed	
FF	Fieldfare	Y	Y		Y					Y					Present	
SF	Spotted Flycatcher		Y				Y					Y			Confirmed	Possible
R.	Robin													Present	Confirmed	
PF	Pied Flycatcher			Y			Y					Y			Confirmed	
RT	Redstart			Y										Present	Confirmed	
WC	Whinchat		Y				Y								Possible	
SC	Stonechat													Present	Confirmed	
W.	Wheatear			Y		Y									Confirmed	
DI	Dipper			Y											Confirmed	
HS	House Sparrow		Y									Y			Confirmed	
D.	Duncock			Y								Y			Confirmed	
GL	Grey Wagtail			Y			Y								Confirmed	
PW	Pied Wagtail														Confirmed	
MP	Meadow Pipit			Y											Confirmed	
TP	Tree Pipit		Y									Y			Probable	
CH	Chaffinch					Y								Possible	Confirmed	
HF	Hawfinch		Y			Y				Y		Y			Present	
BF	Bullfinch			Y								Y		Present	Confirmed	
GR	Greenfinch		Y			Y								Present	Probable	
LI	Linnet		Y									Y			Probable	Confirmed
LR	Lesser Redpoll		Y									Y			Probable	
CR	Common Crossbill	Y													Possible	
GO	Goldfinch														Confirmed	
SK	Siskin													Present	Confirmed	
RB	Reed Bunting			Y								Y			Confirmed	

Non-breeding season

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	SZA1EW	S7W	1-km	2-km	10-km	>10-km
CG	Canada Goose														Present	
GJ	Greylag Goose			Y											Present	
MS	Mute Swan													Present	Present	
WS	Whooper Swan	Y		Y		Y			Y	Y						Present
SU	Shelduck			Y		Y									Present	

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	SZA1EW	S7W	1-km	2-km	10-km	>10-km
MN	Mandarin Duck														Present	
SV	Shoveler			Y						Y					Present	
GA	Gadwall			Y											Present	
WN	Wigeon			Y				Y		Y					Present	
MA	Mallard			Y				Y						Present	Present	
T.	Teal			Y											Present	
PO	Pochard		Y			Y				Y					Present	
NG	Ring-necked Duck									Y					Present	
TU	Tufted Duck							Y							Present	Present
SP	Scaup	Y	Y			Y				Y					Present	
GN	Goldeneye		Y					Y		Y					Present	
GD	Goosander													Present	Present	
PH	Pheasant														Present	
DV	Rock Dove														Present	
SD	Stock Dove			Y											Present	
WP	Woodpigeon			Y										Present	Present	
CD	Collared Dove						Y								Present	
WA	Water Rail														Present	
MH	Moorhen			Y				Y							Present	
CO	Coot							Y						Present	Present	Present
LG	Little Grebe													Present	Present	
GG	Great Crested Grebe														Present	
L.	Lapwing		Y					Y				Y			Present	
GP	Golden Plover								Y			Y			Present	
RP	Ringed Plover		Y					Y				Y			Present	
CU	Curlew		Y			Y						Y			Present	
TT	Turnstone			Y				Y		Y					Present	
RU	Ruff	Y	Y		Y				Y	Y					Present	
SS	Sanderling			Y						Y					Present	
DN	Dunlin		Y					Y	Y						Present	
PS	Purple Sandpiper	Y	Y		Y					Y					Present	
WK	Woodcock		Y					Y							Present	
JS	Jack Snipe									Y					Present	
SN	Snipe			Y				Y							Present	
CS	Common Sandpiper			Y			Y								Present	
GE	Green Sandpiper	Y		Y	Y					Y					Present	
RK	Redshank			Y				Y							Present	
BH	Black-headed Gull			Y				Y				Y			Present	
CM	Common Gull			Y											Present	
GB	Great Black-backed Gull			Y		Y									Present	
HG	Herring Gull		Y			Y						Y			Present	
YG	Yellow-legged Gull			Y		Y				Y					Present	
LB	Lesser Black-backed Gull			Y											Present	
MX	Manx Shearwater			Y												Present
CA	Cormorant						Y								Present	
H.	Grey Heron							Y						Present	Present	
HW	Great White Egret			Y		Y			Y	Y					Present	

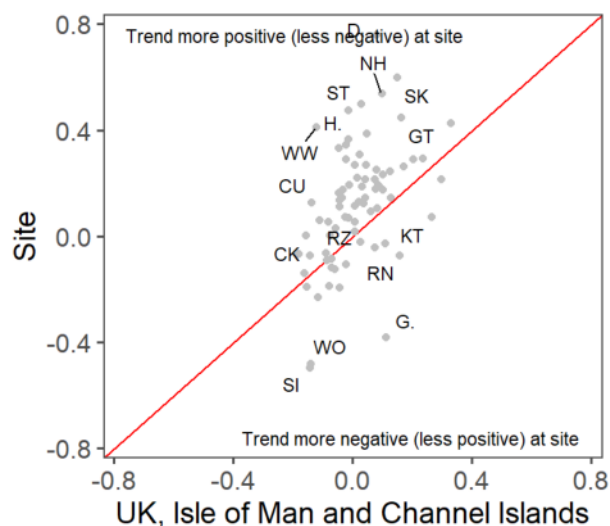
Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	SZA1EW	S7W	1-km	2-km	10-km	>10-km
ET	Little Egret								Y	Y					Present	
SH	Sparrowhawk			Y				Y						Present	Present	
GI	Goshawk	Y					Y			Y					Present	
HH	Hen Harrier	Y	Y			Y			Y	Y		Y			Present	
KT	Red Kite	Y							Y					Present	Present	
BZ	Buzzard													Present	Present	
BO	Barn Owl	Y													Present	
SE	Short-eared Owl			Y		Y			Y	Y					Present	
TO	Tawny Owl			Y			Y								Present	
KF	Kingfisher	Y						Y	Y						Present	
GS	Great Spotted Woodpecker														Present	
G.	Green Woodpecker						Y								Present	
K.	Kestrel			Y				Y				Y		Present	Present	
ML	Merlin	Y	Y			Y			Y	Y					Present	
PE	Peregrine	Y							Y	Y					Present	
J.	Jay													Present	Present	
MG	Magpie														Present	
JD	Jackdaw														Present	
RO	Rook			Y			Y								Present	
C.	Carion Crow													Present	Present	
RN	Raven													Present	Present	
WX	Waxwing									Y						Present
CT	Coal Tit														Present	
WT	Willow Tit		Y			Y			Y			Y			Present	
BT	Blue Tit														Present	
GT	Great Tit														Present	
S.	Skylark		Y									Y			Present	
SL	Swallow							Y						Present	Present	
HM	House Martin		Y				Y								Present	
CW	Cetti's Warbler	Y													Present	
LT	Long-tailed Tit													Present	Present	
YB	Yellow-browed Warbler			Y		Y										Present
CC	Chiffchaff														Present	
BC	Blackcap														Present	
GC	Goldcrest														Present	
WR	Wren			Y											Present	Present
NH	Nuthatch														Present	
TC	Treecreeper														Present	
SG	Starling		Y					Y				Y			Present	Present
ST	Song Thrush			Y								Y			Present	
M.	Mistle Thrush		Y				Y								Present	
RE	Redwing	Y		Y	Y					Y					Present	
B.	Blackbird														Present	
FF	Fieldfare	Y	Y		Y					Y					Present	
R.	Robin													Present	Present	
SC	Stonechat														Present	
W.	Wheatear			Y		Y									Present	

Code	Species	S1	Red	Amber	CR	EN	NT	VU	A1	RBBP	SZA1EW	S7W	1-km	2-km	10-km	>10-km
DI	Dipper			Y												Present
HS	House Sparrow		Y									Y		Present		Present
D.	Dunnock			Y								Y				Present
GL	Grey Wagtail			Y			Y									Present
PW	Pied Wagtail															Present
MP	Meadow Pipit			Y												Present
CH	Chaffinch					Y										Present
HF	Hawfinch		Y			Y			Y			Y				Present
BF	Bullfinch			Y								Y		Present	Present	Present
GR	Greenfinch		Y			Y										Present
LI	Linnet		Y									Y				Present
LR	Lesser Redpoll		Y									Y				Present
CR	Common Crossbill	Y														Present
GO	Goldfinch															Present
SK	Siskin															Present
RB	Reed Bunting			Y								Y				Present

Appendix 5. Abundance change figures

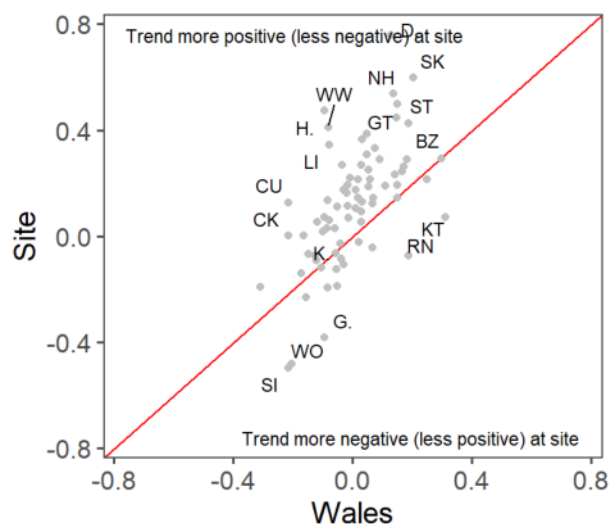
5.1 Country: UK, Isle of Man and Channel Islands

Relative abundance changes for the site and its vicinity compared to the rest of UK, Isle of Man and Channel Islands. Species above the line of equality have more positive/less negative trends at/near the site compared to the country (see Appendix 4 for species codes).



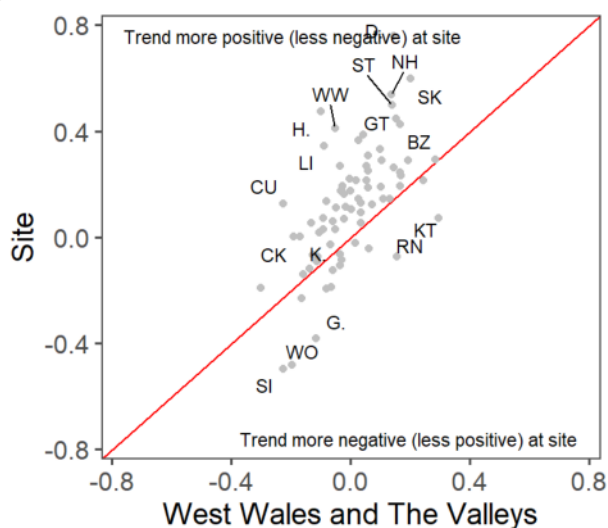
5.2 Country: Wales

Relative abundance changes for the site and its vicinity compared to the rest of Wales. Species above the line of equality have more positive/less negative trends at/near the site compared to the country (see Appendix 4 for species codes).



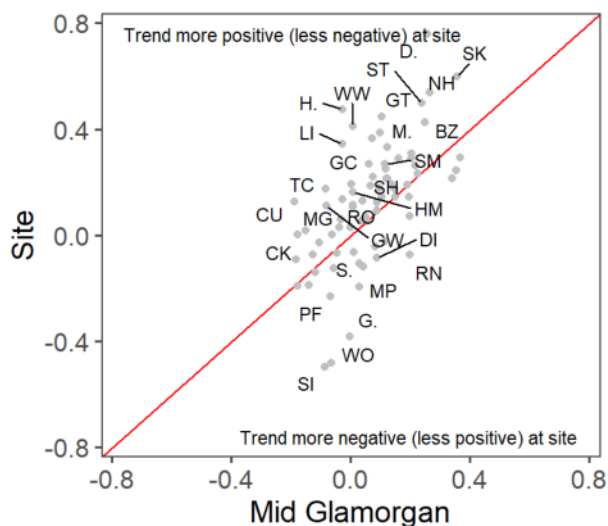
5.3 Region: West Wales and The Valleys

Relative abundance changes for the site and its vicinity compared to the rest of West Wales and The Valleys. Species above the line of equality have more positive/less negative trends at/near the site compared to the country (see Appendix 4 for species codes).



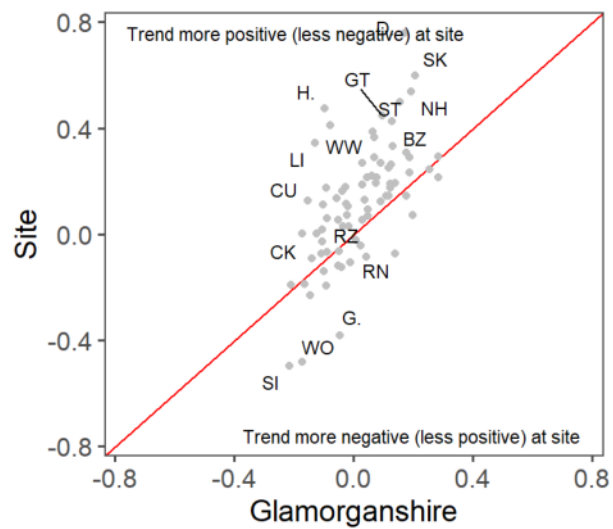
5.4 County: Mid Glamorgan

Relative abundance changes for the site and its vicinity compared to the rest of Mid Glamorgan. Species above the line of equality have more positive/less negative trends at/near the site compared to the country (see Appendix 4 for species codes).



5.5 Vice-county: Glamorganshire

Relative abundance changes for the site and its vicinity compared to the rest of Glamorganshire. Species above the line of equality have more positive/less negative trends at/near the site compared to the country (see Appendix 4 for species codes).





Images: Landscape, Simon Gillings; Barn Owl, Liz Cutting

BTO Data Report

BTO Data Reports provide rigorous scientific information to inform desk studies for ecological impact assessment of proposed development sites. Reports collate comprehensive and contemporary bird distribution and abundance data from the BTO's ornithological datasets. As most biological data are collected in grid squares, spatial analyses identify which grid squares can be associated with the site and its vicinity at different spatial scales. Reports lists all species present at or near the site in the breeding season and in winter, highlighting those of statutory or conservation importance (e.g. Schedule 1, Red List). They also assess the potential importance of the site across a local, regional and national context, listing species for which the site and vicinity account for a high proportion of local, regional or national geographical range and population size.

BTO Data Reports provide unique insights into the bird community present in the vicinity of potential development sites, helping to guide the need for detailed field surveys and highlighting potential priorities for delivering habitat mitigation, enhancement and biodiversity net gain.

BTO Services Ltd
The Nunnery
Thetford
Norfolk
United Kingdom
IP24 2PU



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