



# Breeding Bird Habitat Appraisal

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*This report is based on an assessment of this site undertaken during a visit in June 2024. It has been prepared with all reasonable skill, care and diligence, within the terms of the contract with the client. Recommendations made within the report relate to the plans/proposals provided by the client at the time of the survey; any subsequent changes may alter those recommendations and the proposed mitigation/enhancement measures. The author accepts no responsibility whatsoever to third parties to whom this report may be made known.*

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# 1 INTRODUCTION

## 1.1 Background and Commission

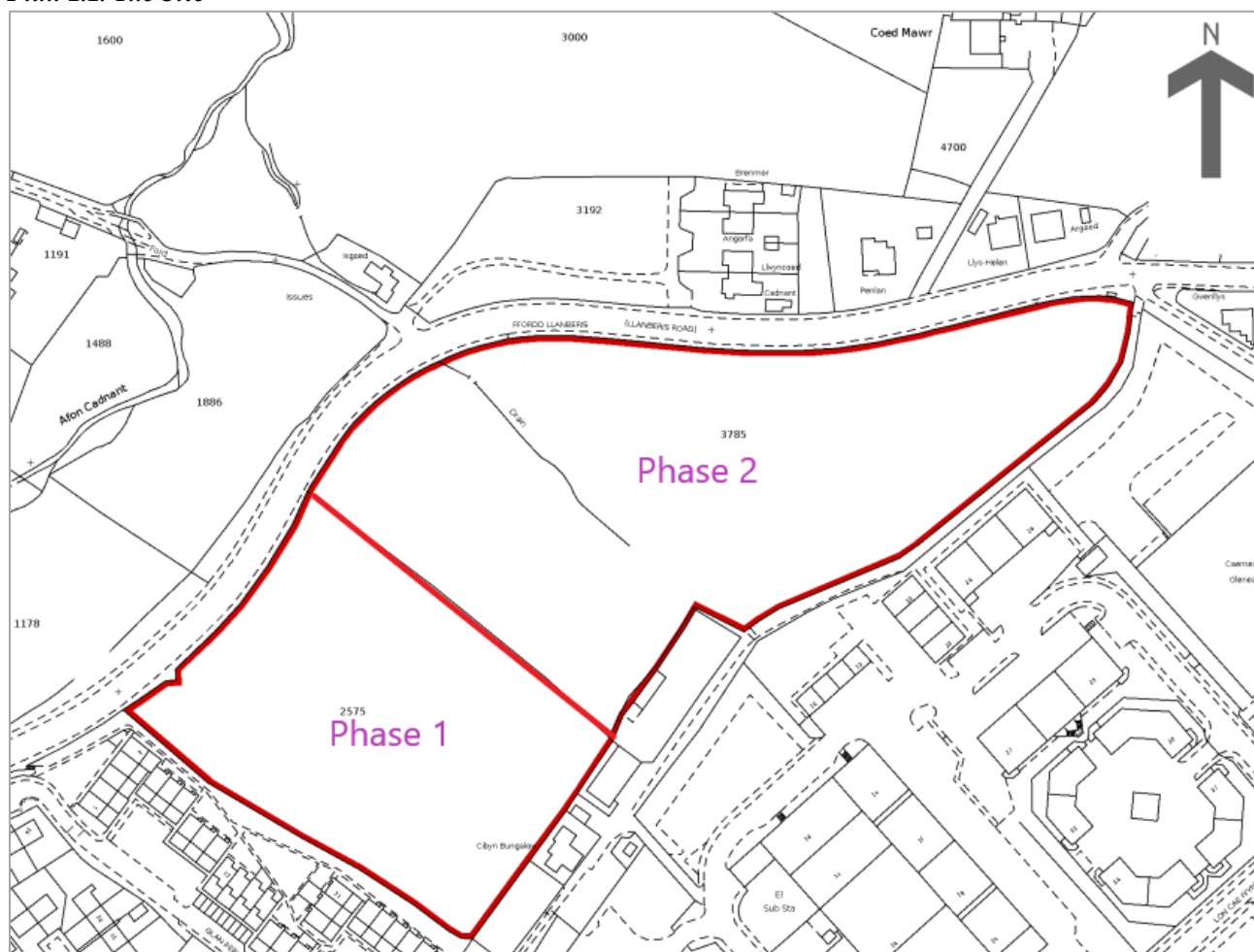
1.1.1 Castell Ecology was appointed in May 2023 by Richards, Moorehead & Laing Ltd (RML Ltd) to undertake an assessment of the suitability of habitats for breeding birds at a parcel of land to the south of Llanberis Road (A4086) in Caernarfon (hereafter referred to as “the Site”).

## 1.2 The Site

1.2.1 The c. 3.65-hectare Site is approximately centred on OS grid reference SH 49307 62826 and is located at the eastern edge of Caernarfon. Land developed for commercial and residential functions border the Site to the south and east, and agricultural land (predominantly pasture) to the north. Coed Cadnant, an area of young woodland managed by The Woodland Trust, lies to the west following the course of Afon Cadnant.

1.2.2 The Site comprises two fields of grazed pasture mostly bounded and defined by broad and overgrown mature native hedgerows with occasional mature trees, notably along the southern boundary; bramble *Rubus fruticosus* scrub and tall herbs grown through and along the margins of these hedges. The majority of the northern boundary, however, is formed by a wire fencing atop a revetment wall above the pedestrian footpath along Llanberis Road. Ground within these field boundaries are dominated by semi-improved grassland with some patches of rushes *Juncus effusus*. A small, overgrown watercourse/ditch is present in part of the northern field.

Plan 1.1: The Site



## 1.3 Development Proposals

1.3.1 Initially, the construction of 36 new homes with associated infrastructure is being proposed in the southern portion of the Site (“Phase 1”).

## **1.4 Legislation and Policy**

- 1.4.1 All birds, their nests and eggs are protected by the *Wildlife and Countryside Act 1981* (as amended) and it is an offence, with certain exceptions, to intentionally kill, injure or take any wild bird; intentionally take, damage or destroy or otherwise interfere with the nest of any wild bird while it is in use or being built; intentionally obstruct or prevent any wild bird from using its nest; or intentionally take or destroy the egg of any wild bird.
- 1.4.2 *Schedule 1* of the *Wildlife and Countryside Act* lists birds protected by special penalties at all times. It is an offence to intentionally or recklessly disturb any wild bird listed in *Schedule 1* while it is nest-building or is at or near a nest with eggs or young; or disturb the dependent young of such a bird.
- 1.4.3 *Section 7 (S7) of The Environment (Wales) Act 2016* lists the living organisms of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales.
- 1.4.4 *Birds of Conservation Concern 5: the population status of birds in the UK, Channel Islands and Isle of Man (RSPB 2021)* categorizes all British bird species as green, amber (BAm) or red (BRd), to respectively indicate populations that are stable, in moderate decline or in sharp decline.

## **1.5 Survey Aims**

- 1.5.1 The survey aimed to assess the suitability of Site for breeding birds, based on the species observed, and the habitats present within the application boundary. The assessment aimed to provide an indication of the species, notably those on conservation interest, likely to be found there during the breeding season.

## 2 METHODOLOGIES

### 2.1 Desk Study

- 2.1.1 A pre-survey request for background ecological data relating to birds has been made by RML Ltd, but these are not included in this report.

### 2.2 Field Survey

- 2.2.1 A walkover survey of accessible land was carried out to record both the species present, and to examine the types and extents of potential breeding bird habitats within the Site.
- 2.2.2 The Site habitats were assessed to generate a list of potential breeding species that might occupy them. The list was based on species preference, geographic location and the local status of each species. Breeding probability assessment was based on the quality and extent of each species' preferred habitat within the study area, but also took into account additional site factors, e.g. disturbance. The breeding probability for each species was categorised as per *Table 2.1*:

*Table 2.1: Breeding probability categorisation*

Code	Probability	BTO Atlas Equivalent
VH	Very High	Confirmed
H	High	Probable
M	Moderate	Possible
L	Low	Possible (but unlikely)
VL	Very Low	Possible (but extremely unlikely)
N	Nil	Non-breeder

### 2.3 Surveyor and Weather Conditions

- 2.3.1 The morning survey was undertaken on 19<sup>th</sup> June 2024 by Richard Castell, an experienced ecologist and respected ornithologist with expertise in breeding bird ecology. He is a member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and has worked in the environmental sector for 30 years and has 22 years' experience in consultancy work.
- 2.3.2 Richard has almost 50 years' experience of studying the breeding birds of Europe, North Africa and the Middle East and has seen or found the nests of over 400 species that breed in that region. In 2009 he co-authored the BirdGuides DVD ROM "*Breeding Birds of the Western Palearctic – Nests, Eggs, Nestlings, Fledglings and Habitats*" and in 2011 the British Trust for Ornithology (BTO) book "*A Field Guide to Monitoring Nests*".
- 2.3.3 Weather conditions were dry with sunny intervals and light winds and a temperature of 16° C.

### 2.4 Limitations to Survey

- 2.4.1 The survey was undertaken at an advanced stage of the British bird breeding season, a period when song output can be limited, and some species are undergoing feather moult and are skulking in nature. As the appraisal was largely habitat-based, it provides only a prediction of the species that may breed. A true representation of the breeding bird assemblage, population estimates and territorial distribution could only be achieved by undertaking a full breeding bird survey at an appropriate time of the year.

## 3 RESULTS

### 3.1 Field survey

- 3.1.1 The field survey directly observed 15 species of bird that could potentially breed within the study area. All were observed in or close to habitats typical for their species, notably the boundary hedges and trees. All are considered as common and widespread, although several are of conservation significance. A list of the species observed is presented at *Table 3.1*.

*Table 3.1: Bird species observed during field survey*

Common (English Vernacular) Name	Scientific Name	Conservation Significance
Woodpigeon	<i>Columba palumbus</i>	BAm
Collared Dove	<i>Streptopelia decaocto</i>	
Magpie	<i>Pica pica</i>	
Jackdaw	<i>Coloeus monedula</i>	
Carrion Crow	<i>Corvus corone</i>	
Blue Tit	<i>Cyanistes caeruleus</i>	
Chiffchaff	<i>Phylloscopus collybita</i>	
Wren	<i>Troglodytes troglodytes</i>	BAm
Mistle Thrush	<i>Turdus viscivorus</i>	BRd
Blackbird	<i>Turdus merula</i>	
House Sparrow	<i>Passer domesticus</i>	BRd, S7
Dunnock	<i>Prunella modularis</i>	BAm, S7
Pied Wagtail	<i>Motacilla alba</i>	
Greenfinch	<i>Chloris chloris</i>	BRd
Goldfinch	<i>Carduelis carduelis</i>	

**Key to Conservation Significance:**

S7 = species listed in Section 7 of The Environment (Wales) Act 2016

BRd = Birds of Conservation Concern 5 Red List species

BAm = Birds of Conservation Concern 5 Amber List species

- 3.1.2 The field sizes and the nature of the grassland within them were considered to be of negligible value to breeding birds, other than as a foraging resource. The trees, hedgerows, scrub and herbs around the field boundaries and along the small watercourse, however, were considered to be high quality breeding habitat for a broad range of common and widespread species, including many not observed during the site visit. The assessment determined that these habitats would likely support 11-19 breeding species, and have the potential to support one or more of an additional 12 species. A list of potential breeding species with details of their conservation status and probability of occurring at the Site is provided in Appendix A.

## 4 DISCUSSION

### 4.1 Evaluation

4.1.1 The assessment determined that the Site would likely support 11-19 breeding species, but has the potential to support more than this. None of the species considered likely to use the Site as a breeding area are specially protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). All species are considered to be common and widespread, but 11 of them are notable species of conservation significance.

4.1.2 Due to the size of the fields, and the grazing of cattle within them, the areas of open grassland at the Site is considered to be of negligible value to breeding birds, other than as a foraging resource. The trees, broad hedgerows and areas of scrub and herbs around the field boundaries, and along the small watercourse, however, are considered to be high quality breeding habitat and hold the greatest value to breeding birds.

### 4.2 Proposed Development

4.2.1 Phase 1 of the scheme proposes the construction of 36 new homes with associated infrastructure is being proposed in the southern portion of the Site.

### 4.3 Likely Impacts

4.3.1 The potential impacts of the scheme on breeding birds are outlined below. In summary these are loss of breeding habitat and the destruction or damage of active nests.

#### Loss of Breeding Habitat

4.3.2 The potential loss of hedgerow, scrub and tree nesting habitats is likely to be the most significant impact of the scheme on breeding birds. At the site level, the proposed losses of these would almost certainly have a major, permanent impact on the breeding birds associated with these areas. At the local level, however, the effect is likely to be minor and short-term as habitats of similar or higher quality (e.g. Coed Cadnant to the west) are present close to the proposed scheme and are likely able to easily absorb the majority of breeding pairs that would be displaced.

#### Destruction or Damage of Active Nests

4.3.3 Any works scheduled during the core British bird breeding season (March-August inclusive) that involve the clearance, pruning or damage<sup>1</sup> of any vegetation would risk the unlawful destruction or damage of active nests. It should be noted, however, that several of the species predicted to breed at the Site typically begin or end their breeding season outside the core season. Collared Dove can begin nesting in early January and Long-tailed Tit usually starts nest-building in February; Woodpigeon breeding is at its peak in July and August and commonly extends into October.

### 4.4 Recommendations

4.4.1 Existing trees, hedgerows and scrub should be retained wherever possible, and if feasible, the scrub and tall herbs that have developed along their edges should be maintained. To enhance the value of any retained and created areas of habitat for nesting birds, the following recommendations should be considered:

- Amenity planting should comprise shrub species that are thorny and berry producing, native species are preferable, but non-native species with the required attributes would be acceptable.
- Planting schemes should look to provide vertical structure by selecting both low-growing and taller species shrub species to provide suitable nesting cover.

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<sup>1</sup> Deliberate or accidental, e.g., tracking machinery through, or depositing spoil on top of.

- Transitional or “edge” habitats adjacent to retained habitats, and/or the promotion of such habitat in suitable areas of open green space, e.g., near attenuation ponds, should be encouraged in the long-term management plan for the developed Site.

4.4.2 It would also be appropriate to incorporate artificial nest sites into the fabric of the new buildings. These should target priority species that are recorded in the survey area, e.g., House Sparrow, and others that may be attracted to a new development, e.g., Swift *Apus apus*. Each new house should incorporate one box for each species (i.e., two boxes per house). Boxes should be sited close to eaves height on an elevation facing between north and east.

4.4.3 Any of the activities outlined in paragraph 4.3.3 above should be conducted outside the core breeding season for the bird species predicted to breed at the Site (January/February to October inclusive) to ensure that no active nests are damaged or destroyed. Any such works that are required during this period should be preceded by a check of the affected area by a suitably-experienced ecologist with proven competency in finding nests. This approach, however, has significant limitations (outlined below) and should only be adopted as a last resort and restricted to workable areas of habitat determined by the ecologist. Should an active nest be located, no development-related works would be permitted within a prescribed exclusion zone around it until such time that the breeding attempt had concluded.

Regardless of the surveyor’s competency in nest-finding, the efficacy of nesting bird checks can be significantly limited from mid-April onwards by the following factors:

- Both the number of species and pairs breeding rapidly increases from early May and occupy a wider variety of habitats. The nests of some species are also notoriously difficult to find.
- Leaf cover increases substantially from May onwards and many small nests can be very well concealed making detection extremely difficult, especially when nesting in trees or tall hedgerows.
- The height, density and extent of the nesting habitat requiring checks must also be factored into the approach as, for example, extensive blocks of dense, thorny scrub are usually unworkable.



## 5 CONCLUSION

- 5.1 Initially, the construction of 36 new homes with associated infrastructure is being proposed in the southern portion of the Site ("Phase 1").
- 5.2 A morning survey was undertaken on 19<sup>th</sup> June 2024 by Richard Castell to assess the suitability of Site for breeding birds, based on the species observed, and the habitats present within the application boundary. The assessment aimed to provide an indication of the species, notably those on conservation interest, likely to be found there during the breeding season.
- 5.3 Fifteen bird species were noted using the Site during the field survey. The assessment determined that the Site habitats would likely support 11-19 breeding species, but has the potential to support more than this. None of the species predicted likely to use the Site as a breeding area are specially protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). All species are considered to be common and widespread, but 11 of them are notable species of conservation significance.
- 5.4 Trees, broad hedgerows and areas of scrub and herbs around the edges of the fields were assessed to hold the greatest value as a nesting habitat. Open grassland within the fields has negligible value as a nesting habitat but would likely provide a functional role as a foraging habitat for those species breeding in the field boundary features.
- 5.5 The potential loss of hedgerow, scrub and tree nesting habitats is likely to be the most significant impact of the scheme on breeding birds. At the site level, the proposed losses of these would almost certainly have a major, permanent impact on the breeding birds associated with these areas. At the local level, however, the effect is likely to be minor and short-term as habitats of similar or higher quality close to the proposed scheme and are likely able to absorb the majority of breeding pairs that would be displaced.
- 5.6 Any works scheduled during the core breeding season for the bird species predicted to breed at the Site (January/February to October inclusive) that involve the clearance, pruning or damage of any vegetation would risk the unlawful destruction or damage of active nests.
- 5.7 Recommendations have also been made to retain existing trees, hedgerow and scrub, wherever possible, and to enhance the value of residential gardens and other green spaces for breeding birds through the selection of appropriate plants, and through the provision of nest boxes targeting species of conservation importance.
- 5.8 To remove the potential risk of unlawful destruction of bird nests, it has been recommended that habitat clearance works should be carefully timed to avoid the breeding season for those species utilising the Site. If unavoidable, these activities must be preceded by a check for active nests by a suitably-experienced ecologist, but there are limitations to the efficacy of this approach.

## 6 REFERENCES

Cramp, S and Simmons, K. E. L. (eds.) (2004) *BWPi: Birds of the Western Palearctic Interactive* (DVD-ROM). BirdGuides & Oxford University Press.

Fergusson-Lees, J., Castell, R. & Leech, D. (2011) *A Field Guide to Monitoring Nests*. British Trust for Ornithology

RSPB (2021), *Birds of Conservation Concern 5*

## APPENDICES

## APPENDIX A: POTENTIAL BREEDING BIRD SPECIES

British vernacular name	Scientific name	S7	BRd	BAm	Probability	Habitat(s)
Mallard	<i>Anas platyrhynchos</i>			√	M	Herbs & scrub / large tree cavity
Pheasant	<i>Phasianus colchicus</i>				M	Herbs & scrub
Stock Dove	<i>Columba oenas</i>			√	L	Large tree cavity
Woodpigeon	<i>Columba palumbus</i>			√	VH	Trees & tall hedges
Collared Dove	<i>Streptopelia decaocto</i>				H	Trees & tall hedges
Buzzard	<i>Buteo buteo</i>				VL	Trees
Great Spotted Woodpecker	<i>Dendrocopos major</i>				M	Trees
Kestrel	<i>Falco tinnunculus</i>			√	VL	Trees
Jay	<i>Garrulus glandarius</i>				L	Trees or dense, tall hedge
Magpie	<i>Pica pica</i>				VH	Trees or dense, tall hedge
Jackdaw	<i>Coloeus monedula</i>				L	Large tree cavity
Carrion Crow	<i>Corvus corone</i>				VH	Trees
Coal Tit	<i>Periparus ater</i>				M	Small cavity in tree or wall
Blue Tit	<i>Cyanistes caeruleus</i>				H	Small cavity in tree or wall
Great Tit	<i>Parus major</i>				H	Small cavity in tree or wall
Long-tailed Tit	<i>Aegithalos caudatus</i>				VH	Hedges and scrub
Willow Warbler	<i>Phylloscopus trochilus</i>			√	M	Herbs & light scrub
Chiffchaff	<i>Phylloscopus collybita</i>				H	Herbs & scrub
Grasshopper Warbler	<i>Locustella naevia</i>	√	√		VL	Herbs, rushes & light scrub
Blackcap	<i>Sylvia atricapilla</i>				M	Scrub
Garden Warbler	<i>Sylvia borin</i>				M	Scrub
Lesser Whitethroat	<i>Curruca curruca</i>				M	Hedges & scrub
Whitethroat	<i>Curruca communis</i>			√	H	Herbs & scrub
Goldcrest	<i>Regulus regulus</i>				H	Conifer hedge
Wren	<i>Troglodytes troglodytes</i>			√	VH	Trees, hedges, scrub, wall
Nuthatch	<i>Sitta europaea</i>				M	Trees
Treecreeper	<i>Certhia familiaris</i>				M	Trees
Starling	<i>Sturnus vulgaris</i>	√	√		L	Trees
Song Thrush	<i>Turdus philomelos</i>	√		√	VH	Hedges and scrub
Mistle Thrush	<i>Turdus viscivorus</i>		√		VH	Trees
Blackbird	<i>Turdus merula</i>				VH	Hedges and scrub
Robin	<i>Erithacus rubecula</i>				VH	Trees, hedges, scrub, herbs, wall
House Sparrow	<i>Passer domesticus</i>	√	√		L	Hedges
Dunnock	<i>Prunella modularis</i>	√		√	VH	Hedges & scrub
Chaffinch	<i>Fringilla coelebs</i>				H	Hedges & scrub
Bullfinch	<i>Pyrrhula pyrrhula</i>	√		√	M	Hedges & scrub
Greenfinch	<i>Chloris chloris</i>		√		H	Hedges & scrub
Linnet	<i>Linaria cannabina</i>	√	√		M	Hedges & scrub
Goldfinch	<i>Carduelis carduelis</i>				VH	Trees and hedges
Reed Bunting	<i>Emberiza schoeniclus</i>	√		√	VL	Herbs, rushes & light scrub

**Key to Conservation Significance:** S7 = species listed in Section 7 of The Environment (Wales) Act 2016  
BRd = Birds of Conservation Concern 5 Red List species  
BAm = Birds of Conservation Concern 5 Amber List species



## APPENDIX B: PHOTOGRAPHS



**P1:** An example of open cattle pasture



**P2:** An example of rushes in open pasture





**P3:** An example of a boundary hedgerow



**P4:** An example of a boundary hedgerow overgrown with scrub and tall herbs