



## Breeding Bird Survey

Wansbeck Restoration for Climate Change (WRCC)



**Prepared for:** GROUNDWORK

July 2023

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**Reference:** BNE2023BBS

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# 1 INTRODUCTION

## 1.1 Background and Commission

- 1.1.1 Birdwatch North East Ltd was commissioned by Groundwork in June 2023 to undertake a series of breeding bird surveys on pockets of land adjacent to the river Wansbeck, Northumberland. The purpose of the surveys was to inform landowners and stakeholders of the status of the avifauna utilising the land.

## 1.2 The Site

- 1.2.1 What is defined here as “the site” actually comprises of several smaller sites situated around the river Wansbeck in Northumberland, the closest site lies around 10 km west of Morpeth. For the purposes of this report the various smaller sites will be split up, the first is Middleton North at OS grid reference NZ 07355 84638 (hereafter referred to as “Middleton”), the second Dean House Farm at OS grid reference NZ 01077 84034 (hereafter referred to as “Dean House”), the third Ralphshield at OS grid reference NZ 01534 89107 (hereafter referred to as “Ralphshield”), the fourth Fairley Farm at OS grid reference NZ 00411 88526 (hereafter referred to as “Fairley”), the fifth Gallows Hill Farm South at OS grid reference NZ 02413 89084 (hereafter referred to as “Gallows Hill south”), and the sixth Gallows Hill Farm North at OS grid reference NZ 02073 90040 (hereafter referred to as “Gallows Hill north”).
- 1.2.2 The land is currently managed primarily for animal agriculture, with both sheep and cattle present. The wider project focus as undertaken by Groundwork aims to change the land use for each site boundary surveyed. There are plans for woodland and hedgerow restoration at both Middleton and Ralphshield. Grassland restoration at Gallows Hill Farm south. Restoration of a riparian corridor at Dean House, Fairley, and part of Gallows Hill north, with additional peatland restoration also planned for Gallows Hill north.

## 1.3 Survey Aims

- 1.3.1 The aim of the survey was to undertake a series of breeding bird surveys (hereafter BBS) to establish the diversity of avifauna within the various site boundaries and immediate surroundings. This data should allow for future comparison of changes in species diversity once restoration works take place.

# 2 METHODOLOGIES

## 2.1 Field Survey

- 2.1.1 The BBS was undertaken using a standard approach of Common Bird Census methodology (*Bibby et al. 2000*). The Common Bird Census (hereafter CBC) is a methodology used to map birds and their activities within a survey area, in this instance birds were mapped within the various site boundaries, with an additional buffer of 50 metres added.

- 2.1.2 Single early morning surveys were undertaken in June and July. A fixed transect route was chosen and walked at a slow ambling pace, with the utilisation of existing paths and walkways where possible. The route chosen was walked in reverse on alternate visits.
- 2.1.3 All contacts with birds were recorded whether by sight or sound, these were then plotted onto a field sheet using standardised BTO species and activity codes.
- 2.1.4 After completion of the surveys the registrations made were transferred onto a mapping system called QGIS. The registrations and their distribution over the surveys then allowed for assessment as to whether or not a species was non-breeding, possibly, probably, or definitely breeding. During the analysis process standardised BTO Atlas guidance (*Breeding evidence, Bird Atlas*) was used, the categories are defined as follows:

Non-breeding:

- Flying over
- Species summering or on migration

Possible breeding:

- Species encountered in suitable nesting habitat
- A singing male (or calls associated with breeding behaviour) in suitable breeding habitat

Probable breeding:

- Pair observed in suitable breeding habitat
- Territorial behaviour (such as song) on at least two separate visits
- Courtship or display near suitable breeding habitat
- Visiting a probable nest site
- Anxiety (alarm) calls or agitated behaviour
- Nest building or excavation of a burrow

Confirmed breeding:

- Distraction display or feigning injury
- Used nest or egg shells located
- Recently fledged chicks or downy young observed
- Adults seen entering or leaving a nest site
- Adults seen carrying food or faecal sac
- Nest containing eggs
- Nest containing young

## 2.2 Surveyor and Weather

- 2.2.1 All surveys were undertaken by Andrew Kinghorn, an experienced and respected ornithologist with over 18 years of experience in bird identification, and over four years of consultancy experience.
- 2.2.2 Details of weather conditions during each survey are represented below in *Table 2.1*:

**Table 2.1: Survey weather conditions**

| Date         | Temperature (°C)  | Cloud cover | Wind direction and speed (mph) | Visibility | Precipitation |
|--------------|-------------------|-------------|--------------------------------|------------|---------------|
| 22 June 2023 | 14°C inc. to 18°C | 0/8         | West 5                         | Excellent  | Nil           |
| 23 June 2023 | 14°C              | 8/8         | West 3-4                       | Excellent  | Nil           |
| 30 June 2023 | 13°C              | 8/8         | South/South-West 9             | Excellent  | Nil           |
| 05 July 2023 | 10°C inc. to 18°C | 0/8         | North-West 11                  | Excellent  | Nil           |
| 06 July 2023 | 10°C inc. to 15°C | 8/8         | West/South-West 5              | Excellent  | Nil           |
| 07 July 2023 | 15°C inc. to 19°C | 8/8         | South/South-West 10            | Excellent  | Nil           |

## 2.3 Limitations

- 2.3.1 The CBC methodology does recommend ten visits to a site, however due to constraints only two visits were possible to each individual site, one each in June and July. It is recommended that four to six visits should ideally be undertaken in the breeding season of 2024.
- 2.3.2 Areas that could not be accessed on chosen transect routes were instead scanned carefully with binoculars from a sensible vantage point, reasons for this varied and include avoiding potential conflicts with livestock (cattle), route access issues due to excessive rank vegetation, and land access permissions. Whilst it is best practice to approach every part of a site boundary to within 50 metres, it is acknowledged that topography of a site can be a limiting factor, the key principle of a transect is to enable any surveyor to see and hear everything on site, it is therefore sometimes possible and most appropriate to survey from existing footpaths/walkways, preventing excessive disturbance to habitats on site and adhering to site specific risk assessments (*Breeding bird survey methodology, Bird Survey Guidelines*).
- 2.3.3 High flying species that were not perceived to be interacting with the site or the buffer were not recorded.

## 3 RESULTS

### 3.1 Field Survey

- 3.1.1 Only a single Schedule 1 species was recorded during field surveys, this was Crossbill which weren't breeding within the site boundary or buffer, instead they were commuting over the site to reach other areas.
- 3.1.2 A total of 62 species were recorded on the walked transects, many of these were interacting with the site boundaries or buffer zones. Many were birds of conservation concern, sitting on either the red or amber list. Full details of species recorded and a further discussion is given in *Table 3.1*.

### 3.2 Species recorded

- 3.2.1 The table (Table 3.1) details the entire list of bird species recorded on the transect route walked during all surveys, the discussion column focuses around birds seen within the site boundaries and buffer zone.

**Table 3.1: All species recorded within the site boundaries and 50 metre buffer zone.**

| English Name  | Scientific Name              | Conservation Status<br>(Eaton et al. (December 2025)). | Within site boundaries and 50 metre buffer |                  |  |
|---------------|------------------------------|--|--|------------------|--|
|               |                              |  | Min No. of Pairs                           | Max No. of Pairs | Discussion   |
| Mallard       | <i>Anas platyrhynchos</i>    | Amber  | 0  | 0                | Whilst birds were seen from transects there was no evidence the species was breeding.  |
| Teal          | <i>Anas crecca</i>           | Amber  | 0  | 0                | Species was noted from the transect on a small pool at Ralphshield, but there was no evidence of breeding.   |
| Pheasant      | <i>Phasianus colchicus</i>   | Introduced   | N/A  | N/A              | Several adults seen on various dates, all likely reared in pens for shooting interests.  |
| Swift         | <i>Apus apus</i>             | Amber  | 0  | 0                | Whilst the species may have been utilising the site boundaries for foraging opportunities, the lack of suitable nesting locations means the species did not breed.   |
| Feral Pigeon  | <i>Columba livia</i>         | Green  | 0  | 0                | It is possible the species was utilising a small stone building in the very south-west corner of Gallows Hill farm, though this was not proven.  |
| Stock Dove    | <i>Columba oenas</i>         | Amber  | 0  | 0                | The lack of suitable nesting locations within the site boundary and buffer for the species resulted in zero pairs. Though the species was seen to fly east within part of the 50 metre buffer at Ralphshield during the July visit.  |
| Woodpigeon    | <i>Columba palumbus</i>      | Amber  | 1  | 2                | Noted on both visits to Dean House farm entering the same part of woodland and so the species is probably breeding nearby. At Fairley the species was regularly seen utilising the site boundary for foraging, but the lack of suitable nesting trees within the boundary meant it was not suspected to be breeding. |
| Collared Dove | <i>Streptopelia decaocto</i> | Green  | 0  | 0                | Flyovers and so perceived to not be breeding.  |
| Moorhen       | <i>Gallinula chloropus</i>   | Amber  | 0  | 0                | Single registrations seen from transects but not within site boundaries or buffer.   |
| Oystercatcher | <i>Haematopus ostralegus</i> | Amber  | 0  | 0                | The species did not breed within the site boundaries or the buffer zone, however it is likely the species may be breeding on the wider farmland around Ralphshield.  |
| Lapwing       | <i>Vanellus vanellus</i>     | Red  | 0  | 0                | No suitable nesting habitat within the site boundaries or buffer zones for this species.   |
| Curlew        | <i>Numenius arquata</i>      | Red  | 0  | 0                | Gallows Hill north may become suitable with habitat restoration, but at present the grass is likely too high for the species to breed. It  |

|                          |                            |       |   |   |  |
|--------------------------|----------------------------|-------|---|---|--|
|                          |                            |       |   |   | also seems unlikely it bred at Ralphshield, though the hay meadows there could potentially be suitable.  |
| Lesser black-backed Gull | <i>Larus fuscus</i>        | Amber | 0 | 0 | Single bird flew low west over Ralphshield. But the species does not breed anywhere within the various site boundaries due to lack of suitable nesting locations.  |
| Sparrowhawk              | <i>Accipiter nisus</i>     | Amber | 0 | 0 | The species was chiefly a fly through, there is currently no suitable trees for nesting within the site boundaries or buffer zone.   |
| Buzzard                  | <i>Buteo buteo</i>         | Green | 0 | 0 | Whilst the species was seen foraging on multiple occasion at Gallows Hill south as well as at Fairley, there was no clear evidence of breeding.  |
| Great Spotted Woodpecker | <i>Dendrocopos major</i>   | Green | 0 | 0 | The lack of suitable nesting locations within the site boundary and buffer meant this species went down as non-breeding.   |
| Kestrel                  | <i>Falco tinnunculus</i>   | Amber | 0 | 0 | Both sexes of the species were seen on both visits to Gallows Hill in the northern section, however the lack of suitable nesting locations within both the boundary and the buffer resulted in this species being put down as a non-breeder.   |
| Jay                      | <i>Garrulus glandarius</i> | Green | 0 | 0 | Single registration of this shy and elusive species resulted in no confirmed breeding, the site boundaries and buffer zones are also largely unsuitable in their current form.   |
| Magpie                   | <i>Pica pica</i>           | Green | 0 | 0 | Either flying over the site boundaries and buffer zone or using it for foraging purposes.  |
| Jackdaw                  | <i>Coloeus monedula</i>    | Green | 0 | 0 | Either flying over the site boundaries and buffer zone or using it for foraging purposes.  |
| Rook                     | <i>Corvus frugilegus</i>   | Amber | 0 | 0 | Noted as a flyover only, utilising the site as a flyway and potentially for foraging opportunities.  |
| Carrion Crow             | <i>Corvus corone</i>       | Green | 0 | 0 | Whilst the species is not breeding within any of the site boundaries, it is using the areas for foraging opportunities.  |
| Marsh Tit                | <i>Poecile palustris</i>   | Red   | 0 | 0 | A lone singing male was singing strongly in July in woodland within the western buffer at Middleton. It is therefore treated as possible breeding, but as this is a species of significant conservation concern a concerted effort should be made in the future to establish probable or confirmed breeding.   |
| Blue Tit                 | <i>Cyanistes caeruleus</i> | Green | 8 | 9 | An adult with fledged juveniles was seen within the site boundary at Middleton in July. A family party was present within the site boundary at Ralphshield in the south-western corner, with an additional two family parties in the eastern and north-eastern section of the site boundary. Other adults were seen at Ralphshield, but breeding went unconfirmed. Two family parties were seen at Gallows Hill south, one in the southern/south-eastern section of the site boundary and another just north-west of the farmhouse along |

|                 |                               |       |   |   |   |
|-----------------|-------------------------------|-------|---|---|---|
|                 |                               |       |   |   | the driveway. At Gallows Hill north two family parties were noted, one consisting of two juveniles in the eastern buffer and another with at least one juvenile in the south-western buffer zone.   |
| Great Tit       | <i>Parus Major</i>            | Green | 5 | 6 | Contact calls or song heard on two separate visits at Fairnley meant it was probable the species was breeding within the buffer. Two different families were noted within the site boundary at Middleton during June's visit, one family party consisting of at least four juveniles. A family party was also noted in July in the very south-eastern corner of the site boundary at Ralphshield. A family party was noted in July at Gallows Hill south in the southern/south-eastern section of the site boundary. There was also another potential pair in the northern section of Gallows hill south. |
| Coal Tit        | <i>Periparus ater</i>         | Green | 0 | 0 | Heard calling in the buffer of Dean House farm during June's visit only.  |
| Skylark         | <i>Alauda arvensis</i>        | Red   | 8 | 9 | It is likely a pair of Skylarks were at least using the buffer zone at Middleton for foraging, they were certainly nesting in adjacent fields. The same situation applied at Ralphshield, with a pair in the very western portion of the site. At Gallows Hill north the species was breeding in low numbers, with pairs in the south-eastern, western, south-western and potentially north-western sections of the site boundary. Two family parties consisting of two juveniles and another of four were also seen in the north-western section of the site.  |
| Sand Martin     | <i>Riparia riparia</i>        | Green | 0 | 0 | The species was using Ralphshield for foraging opportunities and perching on wires by the road on the southern edge of the site boundary. It was also very common in the southern section of Middleton, with hundreds foraging just outside of the site boundary and buffer, it is highly likely these birds use the site for foraging opportunities.   |
| Swallow         | <i>Hirundo rustica</i>        | Green | 1 | 3 | The species was breeding in farm buildings at Gallows Hill, with birds seen entering and existing nest sites as well as juveniles in July's visit.  |
| House Martin    | <i>Delichon urbicum</i>       | Red   | 1 | 2 | The species appeared to be breeding in the buffer zone in the very north-eastern corner of the Ralphshield site boundary. However further inspection was not undertaken due to the presence of private residencies.   |
| Long-tailed Tit | <i>Aegithalos caudatus</i>    | Green | 0 | 0 | Seen and heard, whilst breeding went unconfirmed it seemed likely.  |
| Willow Warbler  | <i>Phylloscopus trochilus</i> | Amber | 1 | 2 | The species was likely breeding within the boundary at Dean House farm and also utilising the buffer.   |



|                     |                                   |       |    |    |   |
|---------------------|-----------------------------------|-------|----|----|---|
| Chiffchaff          | <i>Phylloscopus collybita</i>     | Green | 1  | 2  | Present within the buffer at the eastern end of Gallows Hill north.   |
| Sedge Warbler       | <i>Acrocephalus schoenobaenus</i> | Amber | 2  | 2  | At least two territorial males were present by the river Wansbeck at Middleton on both visits.  |
| Grasshopper Warbler | <i>Locustella naevia</i>          | Red   | 1  | 1  | An adult was seen carrying food to a dense hawthorn within the buffer of Middleton, confirming the species was feeding young.   |
| Blackcap            | <i>Sylvia atricapilla</i>         | Green | 1  | 3  | The species was heard singing at Dean House farm in June only, so breeding went down as possible. A singing male was present in woodland within the buffer at the west end of Middleton.  |
| Garden Warbler      | <i>Sylvia borin</i>               | Green | 0  | 0  | Whilst a male was heard singing during July's visit to Dean House farm breeding went unconfirmed, though seems likely given habitat.  |
| Whitethroat         | <i>Curruca communis</i>           | Amber | 0  | 0  | A singing male in the eastern buffer at Middleton was a possible breeder only.  |
| Goldcrest           | <i>Regulus Curacao</i>            | Green | 0  | 0  | Heard signing but not enough registrations to establish probable breeding.  |
| Wren                | <i>Troglodytes Curacao</i>        | Amber | 14 | 16 | The species was heard on both visits to Dean House farm, both times within the buffer. Heard signing on both June and July visits to Fairnley in woodland within the buffer. Singing and alarm calling heard at Middleton, mainly around the woodland to the north-west, but there was also a pair in the south-eastern section. Two pairs were present in woodland within the buffer zones at Ralphshield, one in the south-western corner and another in the north-eastern corner. A pair were present in the southern/south-eastern section of Gallows Hill south, as well as in the buffer zones towards the western edge of the site. Whilst at Gallows Hill north there were two pairs in the buffer on the eastern and north-eastern edge of the site, with a different pair also present along the burn that runs through the northern section of the site. |
| Nuthatch            | <i>Sitta europaea</i>             | Green | 0  | 0  | The species was mainly using the site and the buffer for foraging opportunities, also with some registrations of birds in flight it is likely they are also using the site as a flyway.   |
| Starling            | <i>Sturnus vulgaris</i>           | Red   | 0  | 0  | Multiple birds and flocks seen, but mostly foraging outside of the site boundaries and buffers, there is also little in the way of suitable nesting habitat within boundaries and buffers for probable or confirmed breeding.   |
| Song Thrush         | <i>Turdus philomelos</i>          | Amber | 2  | 3  | A pair was present along the farm track to Gallows Hill south. Singing male was present in the eastern buffer at Gallows Hill north on two separate locations.  |
| Mistle Thrush       | <i>Turdus viscivorus</i>          | Red   | 0  | 0  | Using the buffer zone at Middleton for foraging opportunities. The species almost certainly bred elsewhere as seen from the survey  |

|               |                                |       |    |    |   |
|---------------|--------------------------------|-------|----|----|---|
|               |                                |       |    |    | transect, but not within the site boundaries or buffer zone, and so here went down as not confirmed.  |
| Blackbird     | <i>Turdus merula</i>           | Green | 0  | 0  | Despite multiple registrations non could go down as probable or confirmed, though it is highly likely family parties are using the site for foraging opportunities.   |
| Robin         | <i>Erithacus rubecula</i>      | Green | 3  | 4  | A juvenile was seen at Middleton in July's visit. At Gallows Hill south some contact calls were heard on two separate occasions, and so are treat here as a pair, whilst there was also a juvenile seen and counted here as different from the presumed pair.   |
| Redstart      | <i>Phoenicurus phoenicurus</i> | Amber | 3  | 3  | An adult with fledged young in attendance was noted at Middleton during June's visit. A family party of four Redstarts (three juveniles) were favouring hawthorn hedgerows with the site boundary at Gallows Hill south in June. An alarm calling adult in July is suggestive of a probable breeding attempt within the southern section of the buffer zone at Gallows Hill south, this bird was in addition to the family party. |
| Whinchat      | <i>Saxicola rubetra</i>        | Red   | 0  | 0  | Single adult male was seen on a fence line in the south-west corner of Gallows Hill north during July's visit, but this bird could easily have been a failed breeder dispersing.  |
| Tree Sparrow  | <i>Passer montanus</i>         | Red   | 0  | 0  | A few registrations outside of the site boundaries and buffer, family parties and adults are highly likely to be utilising the site for foraging opportunities.   |
| House Sparrow | <i>Passer domesticus</i>       | Red   | 0  | 0  | Family parties seen using the site for foraging, but breeding not confirmed due to lack of suitable nesting locations within the site boundary and buffer.  |
| Dunnock       | <i>Prunella modularis</i>      | Amber | 0  | 0  | Despite a few registrations, these were not numerous enough to establish probable or confirmed breeding, but it is likely.  |
| Grey Wagtail  | <i>Motacilla cinerea</i>       | Amber | 0  | 0  | Registrations pertained to birds outside of survey boundaries and buffers, they also likely pertain to individuals in post breeding dispersal.  |
| Pied Wagtail  | <i>Motacilla alba</i>          | Green | 2  | 2  | A juvenile was seen on wires within the buffer zone in the very north-western corner of Ralphshield. Adults were also seen at Ralphshield in both months independently of the juvenile, and so they are counted here as a probable pair having been seen in the same location on two visits.  |
| Meadow Pipit  | <i>Anthus pratensis</i>        | Amber | 12 | 15 | Possibly breeding at Fairley, but with only a single registration of a singing male it went down unconfirmed. At least one pair, potentially two within the buffer of Middleton within the northern section, with birds singing, calling, and seen carrying food. On the southern section of Middleton around the river Wansbeck at least   |

|              |                             |       |   |   |  |
|--------------|-----------------------------|-------|---|---|--|
|              |                             |       |   |   | one pair was present. A family party were noted at Gallows Hill south, whilst another pair were probably breeding nearby and are treat here as such. At Gallows Hill north the species was numerous, with at least seven pairs counted, the large expanse of grassland here which remains free of cattle and sheep has allowed the species to prosper, and seven pairs could easily be conservative.   |
| Chaffinch    | <i>Fringilla coelebs</i>    | Green | 4 | 5 | Singing male was present on both visits to Fairnley in woodland within the buffer. Contact calls and song from two separate visits did suggest the presence of another pair within the buffer at Fairnley. Two family parties were present at Gallows Hill south, one within the western and another in the north-western section of the site boundary and buffer. Another family party was present at Gallows Hill north in the eastern section of the site boundary, this party consisted of an adult and a single juvenile. |
| Bullfinch    | <i>Pyrrhula pyrrhula</i>    | Amber | 0 | 0 | Whilst the species was recorded at Middleton, it was primarily associating with the woodland to the north-western edge of the site boundary, there were not enough registrations to establish probable or confirmed breeding.  |
| Linnet       | <i>Linaria cannabina</i>    | Red   | 3 | 4 | What was probably the same pair (and is treated as such here) was seen both in June and July at Middleton within the site boundary. At Gallows Hill north there were a pair of birds favouring the burn that runs through the northern section of the site, whilst another pair appeared to be present in the western section and are counted as such here.  |
| Crossbill    | <i>Loxia curvirostra</i>    | Green | 0 | 0 | This species can breed at any time of year, whilst it was noted flying over the site boundaries on numerous occasions, there is no suitable nesting locations within the boundaries or buffer.   |
| Goldfinch    | <i>Carduelis carduelis</i>  | Green | 1 | 3 | A pair were seen with young around Gallows Hill south (five juveniles). High flying flocks of birds suggest that the maximum number of pairs seen is conservative.   |
| Siskin       | <i>Spinus spinus</i>        | Green | 0 | 0 | Species was seen flying over Dean House farm during both June and July visits, but lack of suitable nesting locations resulted in no likely pairs.   |
| Yellowhammer | <i>Emberiza citrinella</i>  | Red   | 1 | 2 | The species was breeding outside of the site and buffer at Middleton, but they were not utilising the site or buffer itself to breed. Present over both visits in the same location in the south-east corner of Gallows Hill north.  |
| Reed Bunting | <i>Emberiza schoeniclus</i> | Amber | 5 | 6 | During July's visit a sizeable fledged Reed Bunting was seen, it is likely given the habitat this bird came from a nest in the immediate vicinity as it was also accompanied by an adult. There was a  |

|  |  |  |  |  |   |
|--|--|--|--|--|---|
|  |  |  |  |  | singing male on both visits at Middleton within the 50 metre buffer within the northern section, whilst there were also two juveniles seen in the southern section by the river Wansbeck. There was also likely more breeding in Gallows Hill north than stated here, but conservative numbers are given. |
|--|--|--|--|--|---|

## 4 REFERENCES

Bibby, C. et al (2000) Bird Census Techniques (2nd Edition).

Breeding bird survey methodology, Bird Survey Guidelines. (n.d.).  
<https://birdsurveyguidelines.org/methods/survey-method/>

Breeding evidence, Bird Atlas. (n.d.). <https://www.bto.org/our-science/projects/birdatlas/methods/breeding-evidence>

Eaton et al. (December 2025). Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. British Birds. 108, p.708–746.  
<https://britishbirds.co.uk/wp-content/uploads/2014/07/BoCC4.pdf>

## 5 FIGURES

The following figures appear below in the order in which they are listed:

- Figure 1A: Registrations at Middleton North (northern section) June 2023
- Figure 1B: Registrations at Middleton North (southern section) June 2023
- Figure 2: Registrations at Dean House Farm June 2023
- Figure 3A: Registrations at Ralphshield (northern section) June 2023
- Figure 3B: Registrations at Ralphshield (southern section) June 2023
- Figure 4: Registrations at Fairnley Farm June 2023
- Figure 5: Registrations at Gallows Hill South June 2023
- Figure 6: Registrations at Gallows Hill North June 2023
- Figure 7A: Registrations at Middleton North (northern section) July 2023
- Figure 7B: Registrations at Middleton North (southern section) July 2023
- Figure 8: Registrations at Dean House Farm July 2023
- Figure 9A: Registrations at Ralphshield (northern section) July 2023
- Figure 9B: Registrations at Ralphshield (southern section) July 2023
- Figure 10: Registrations at Fairnley Farm July 2023
- Figure 11: Registrations at Gallows Hill South July 2023
- Figure 12: Registrations at Gallows Hill North July 2023



Figure 1B: Registrations at Middleton North (southern section) June 2023

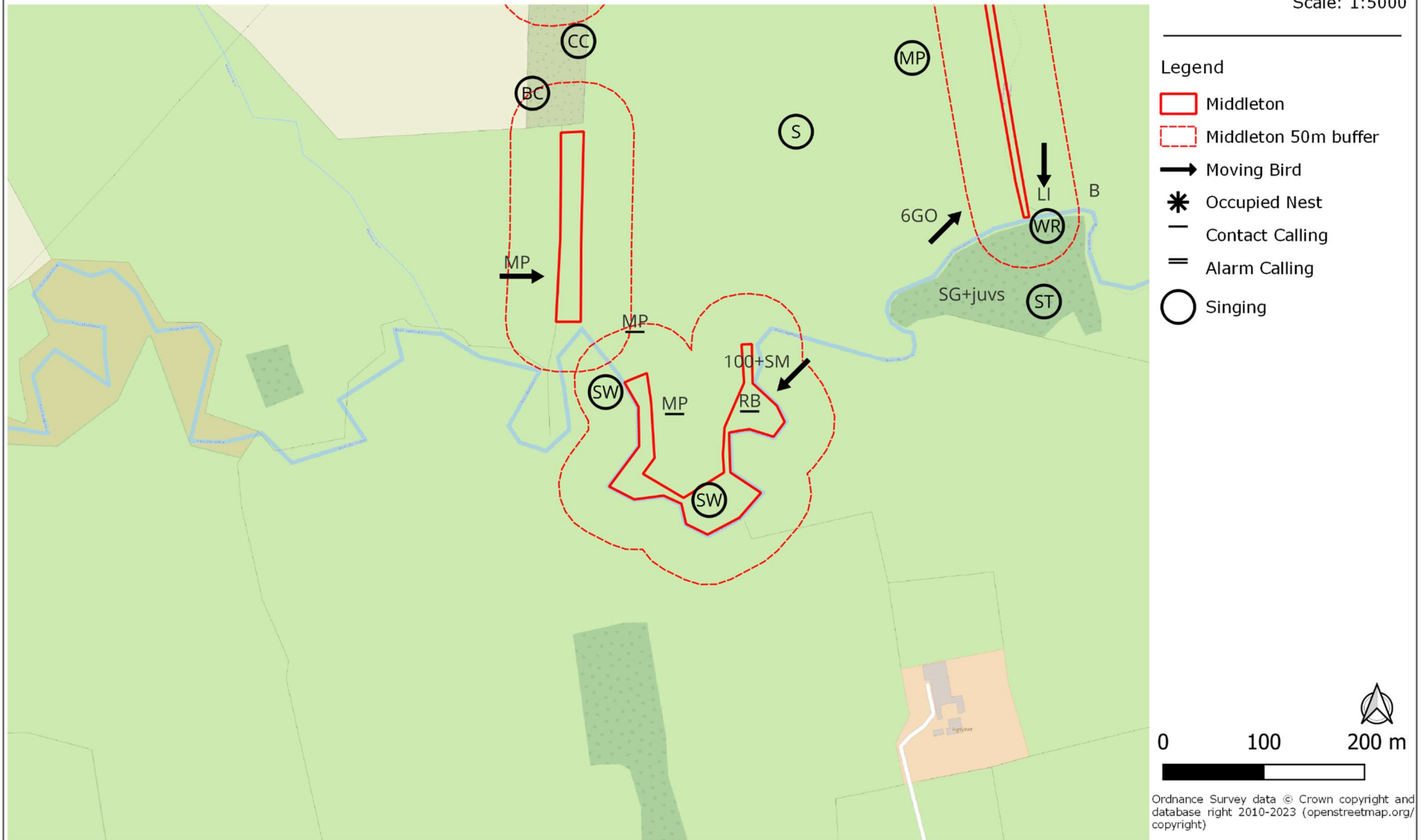


Figure 2: Registrations at Dean House Farm June 2023

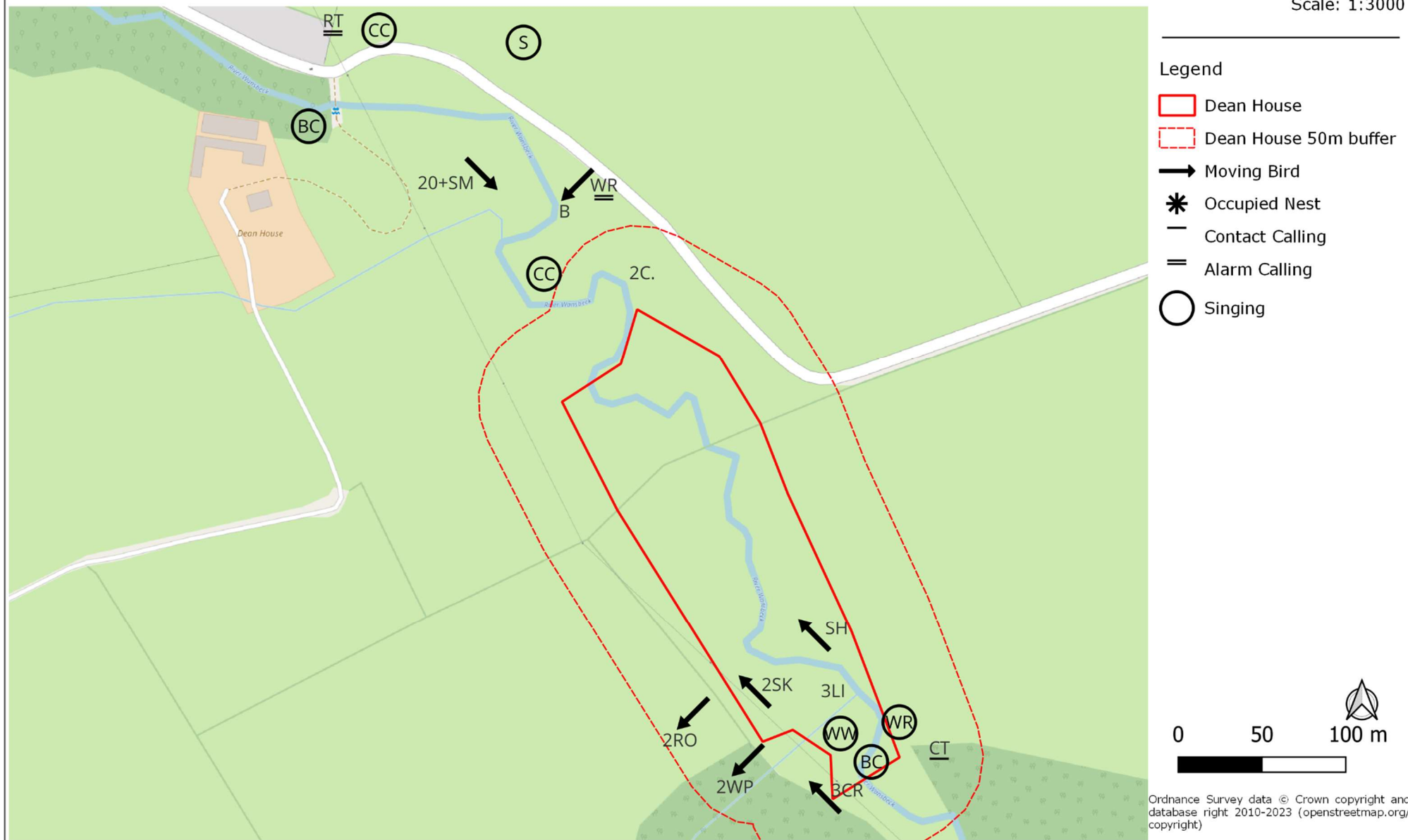




Figure 3A: Registrations at Ralphshield (northern section) June 2023

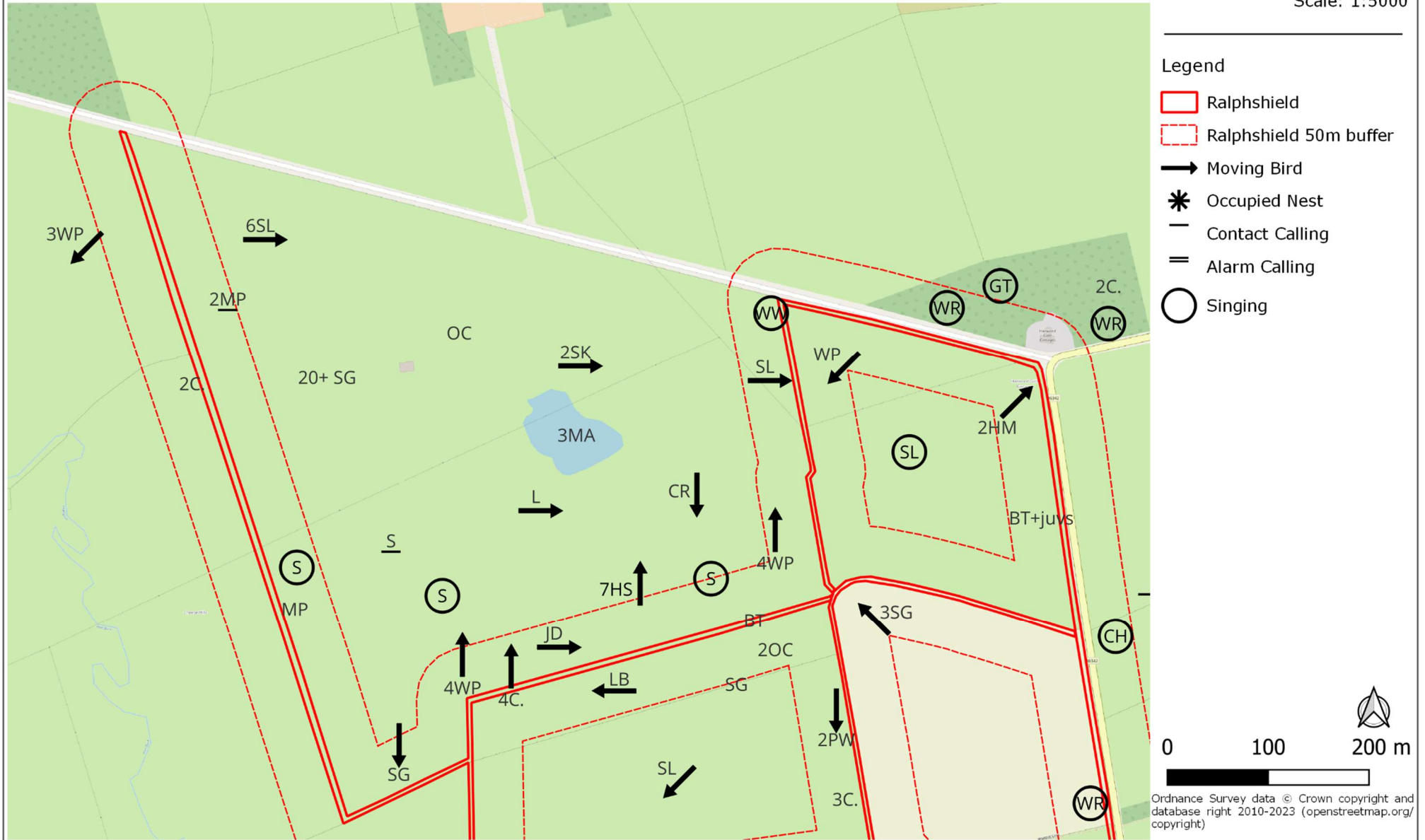


Figure 3B: Registrations at Ralphshield (southern section) June 2023

Drawn: A. Kinghorn  
Date: July 2023  
Scale: 1:4300

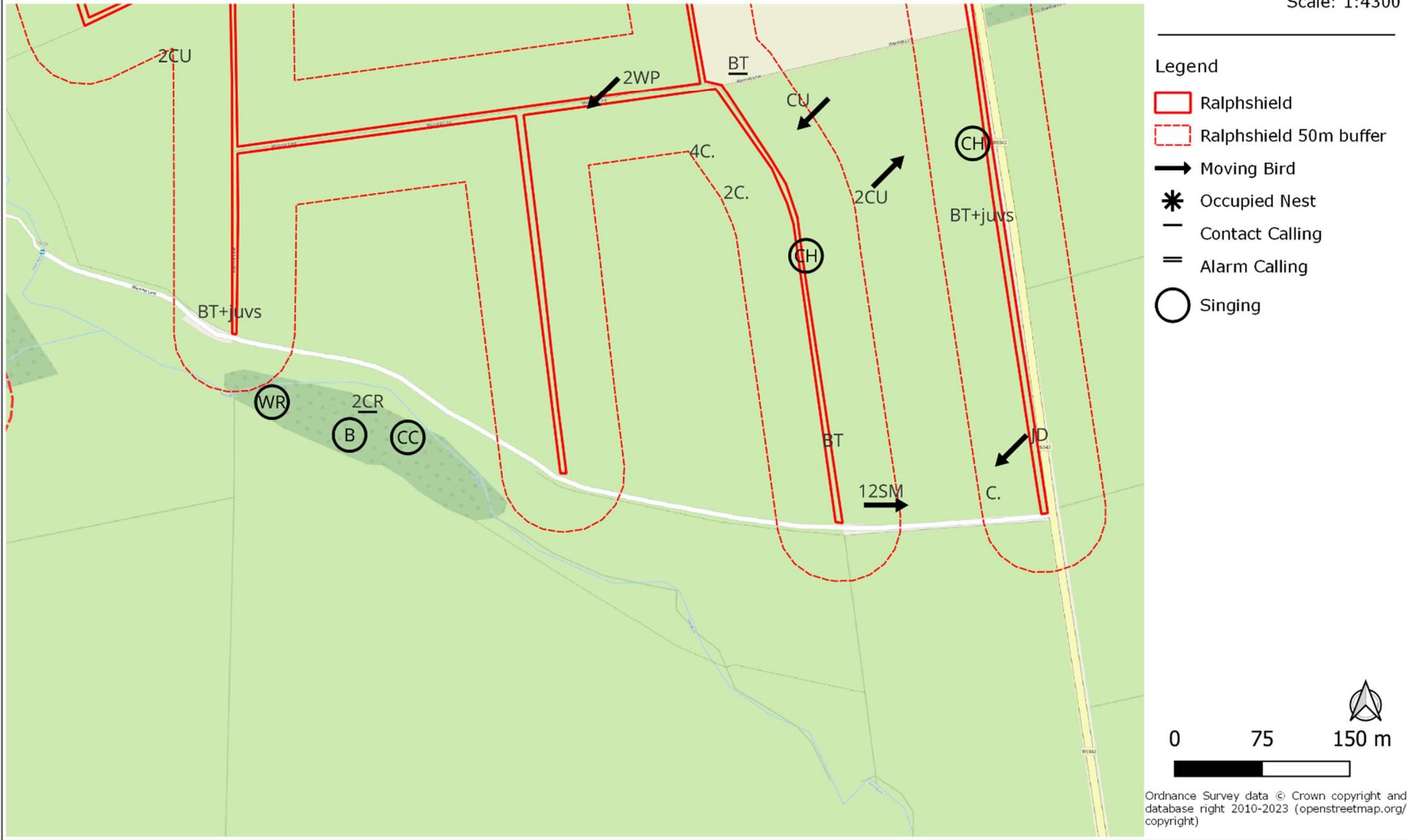


Figure 4: Registrations at Fairnley Farm June 2023

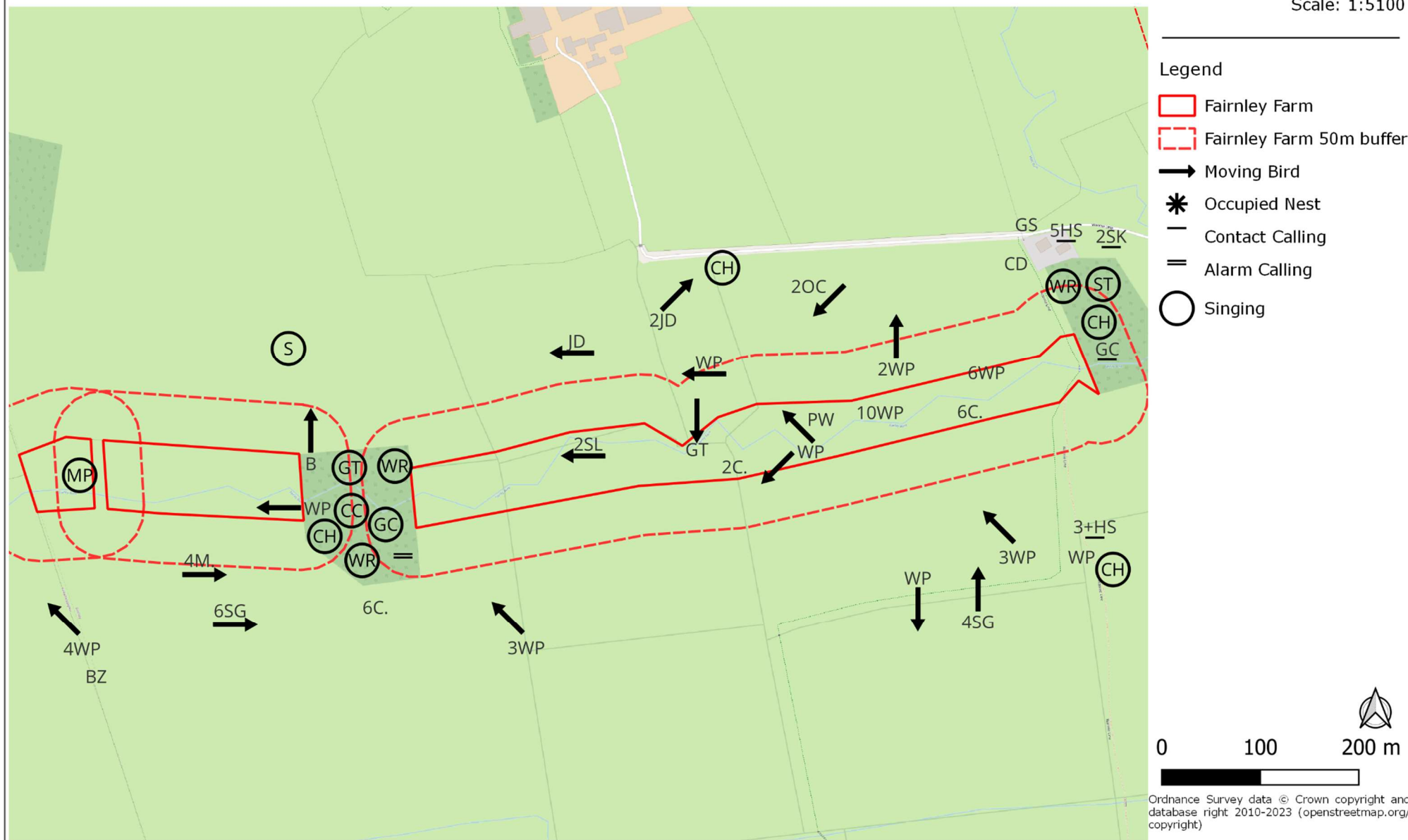


Figure 5: Registrations at Gallows Hill South June 2023

Drawn: A. Kinghorn  
Date: July 2023  
Scale: 1:4400

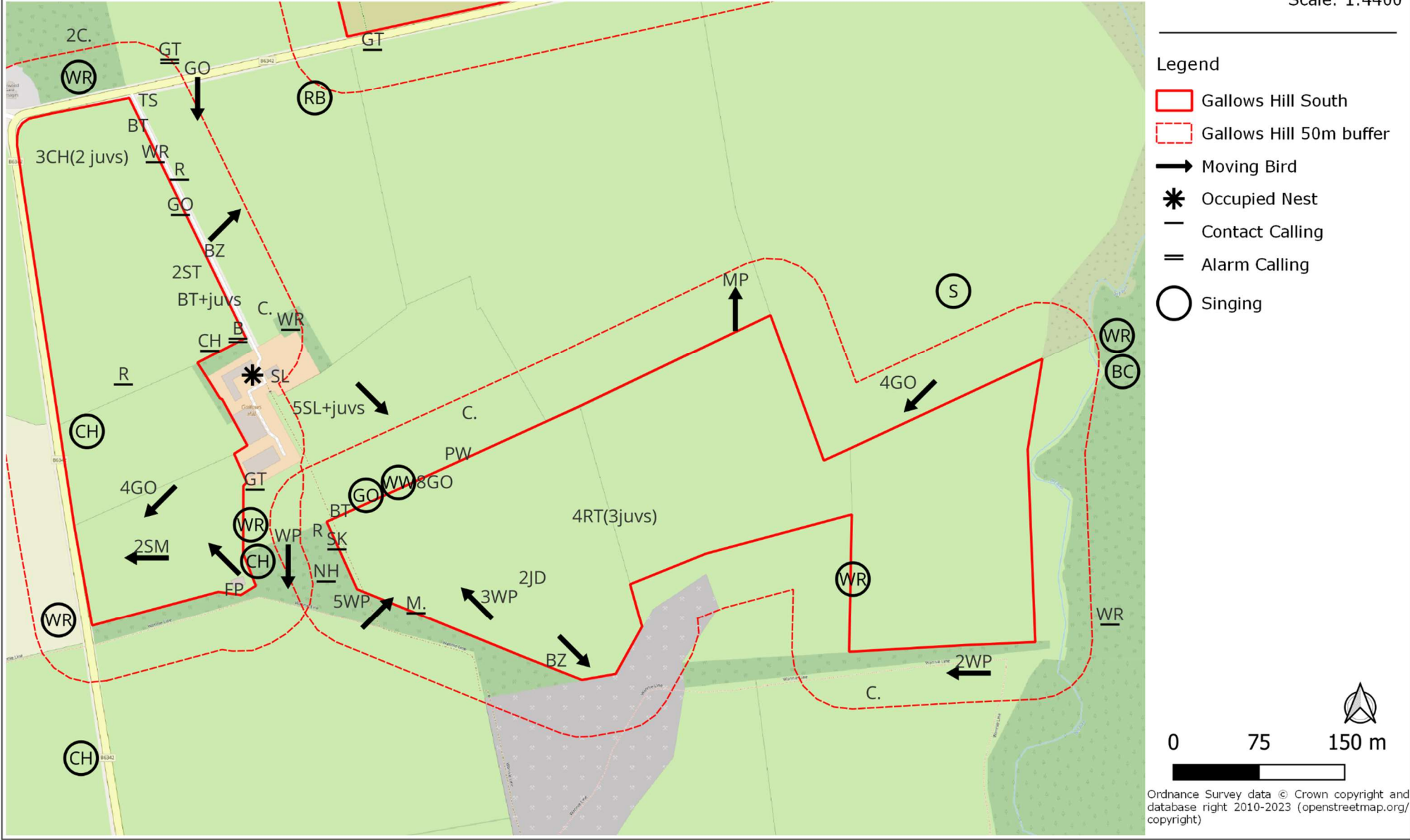






Figure 7A: Registrations at Middleton North (northern section) July 2023

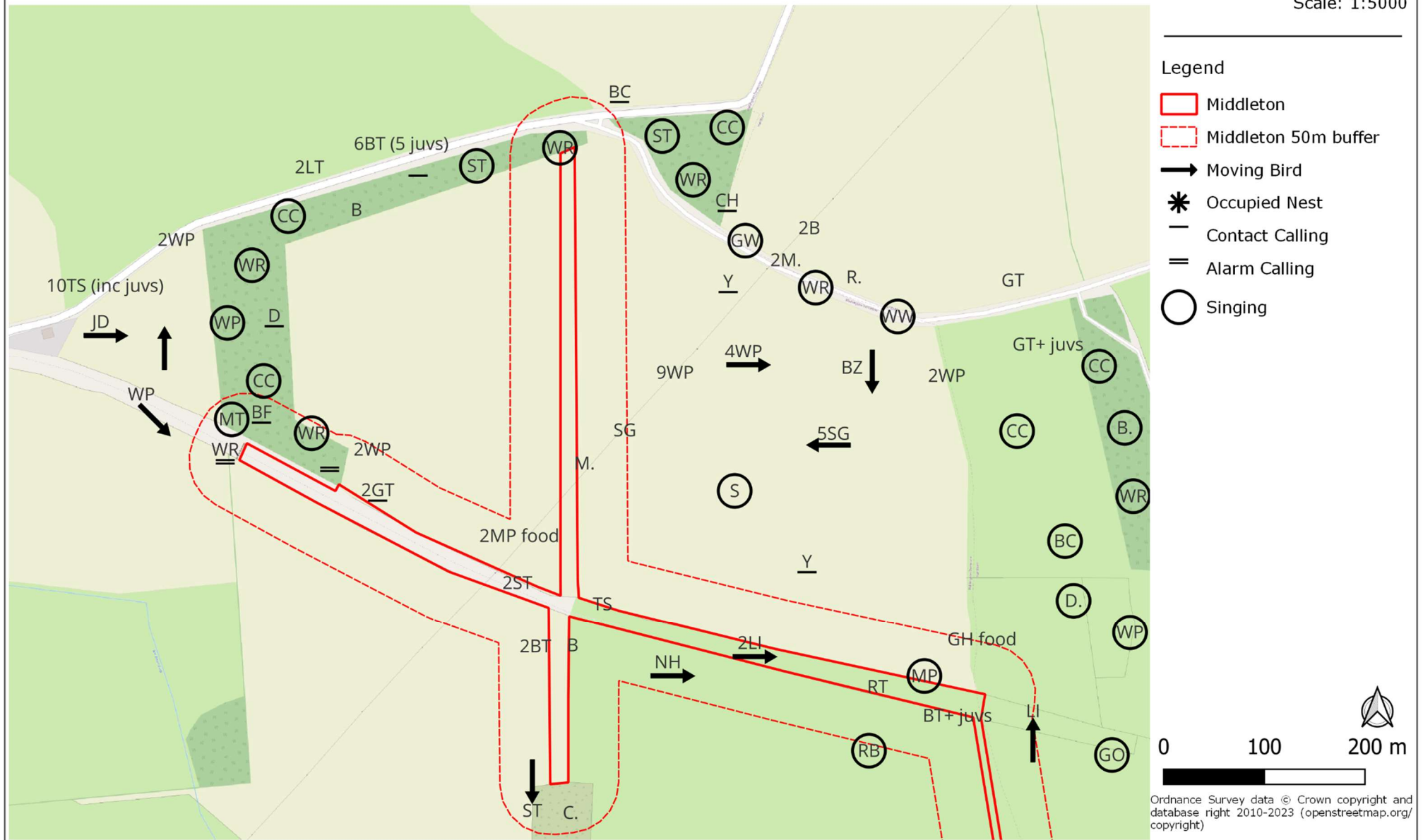


Figure 7B: Registrations at Middleton North (southern section) July 2023

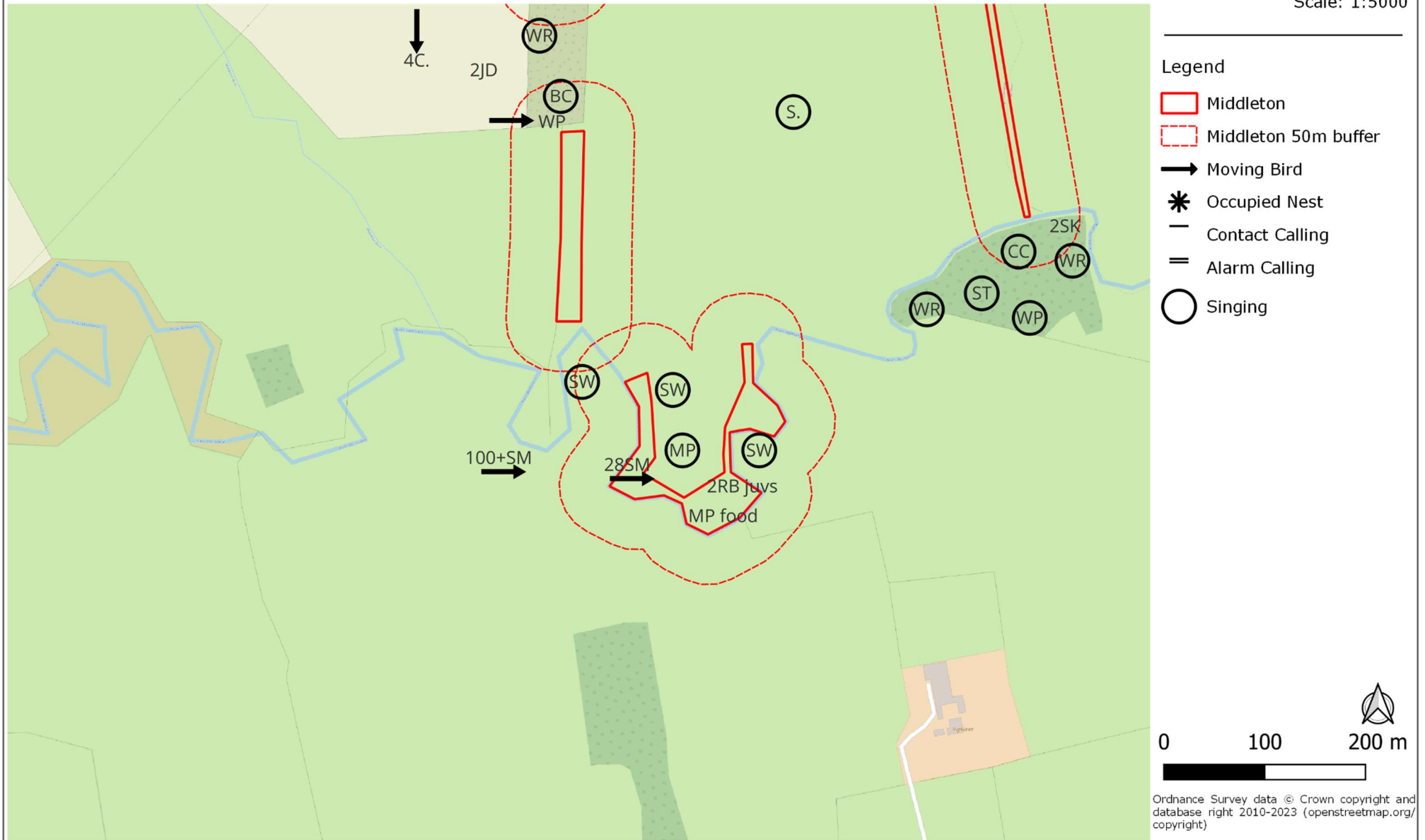


Figure 8: Registrations at Dean House Farm July 2023

Drawn: A. Kinghorn  
Date: July 2023  
Scale: 1:3000

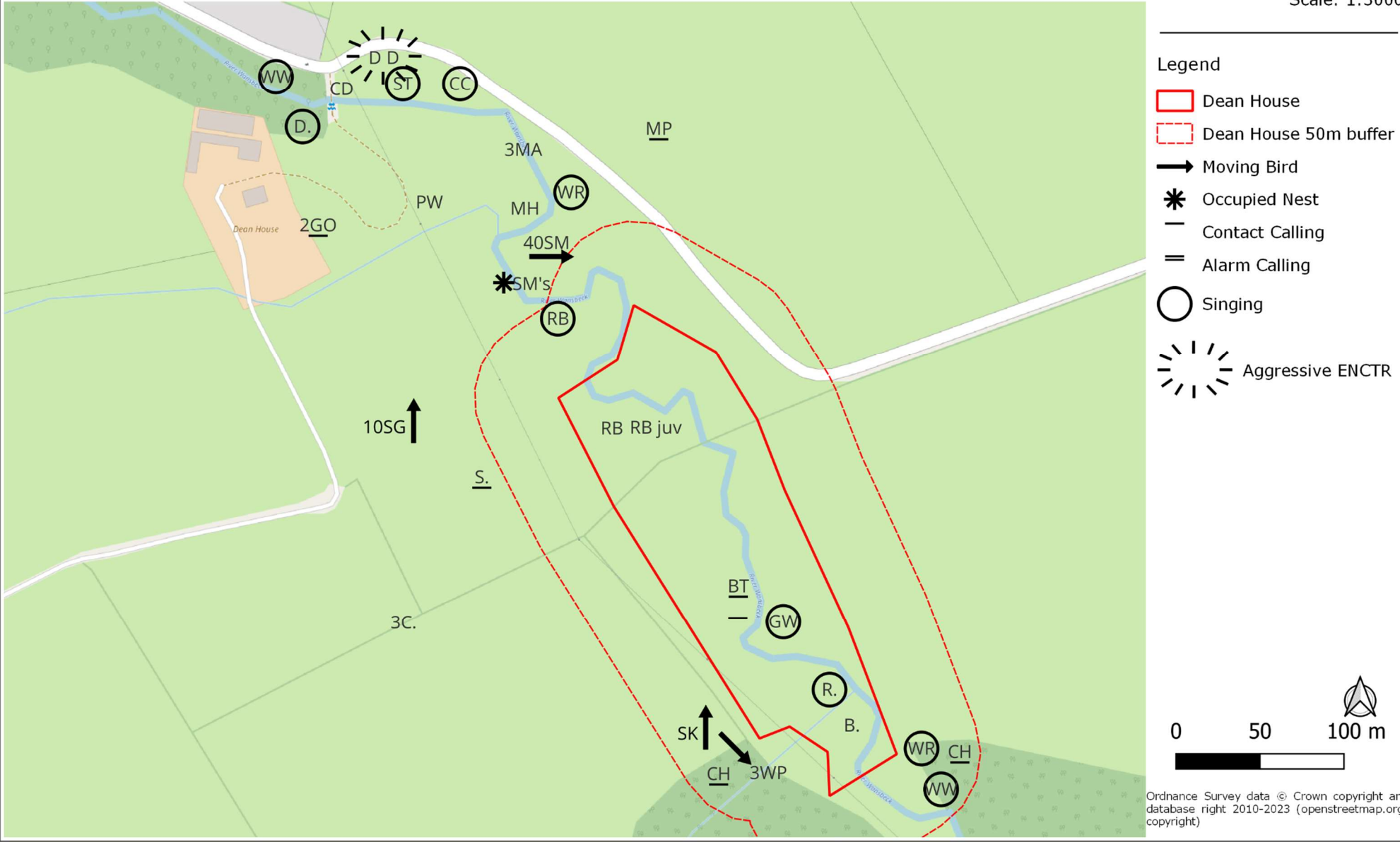




Figure 9A: Registrations at Ralphshield (northern section) July 2023

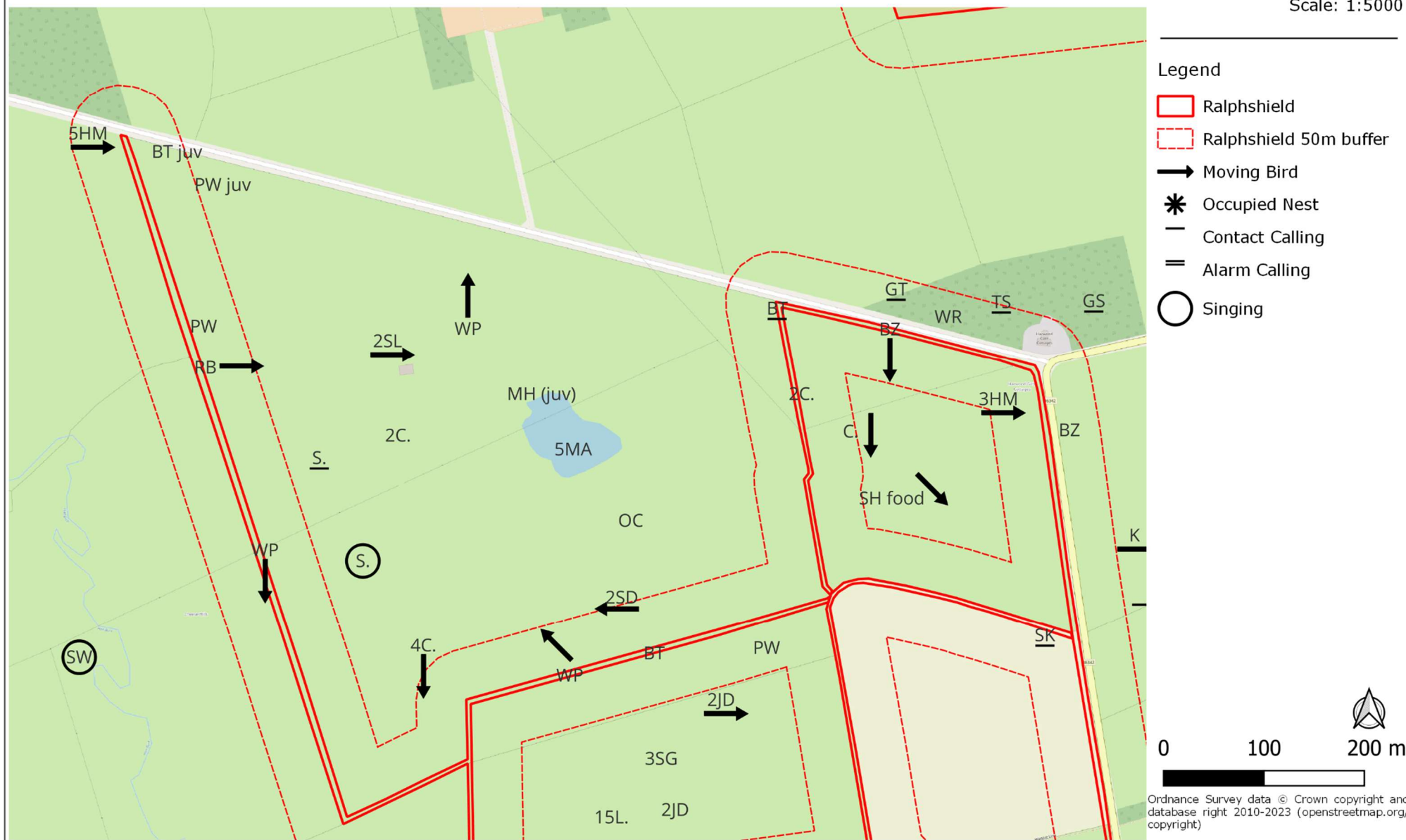


Figure 9B: Registrations at Ralphshield (southern section) July 2023

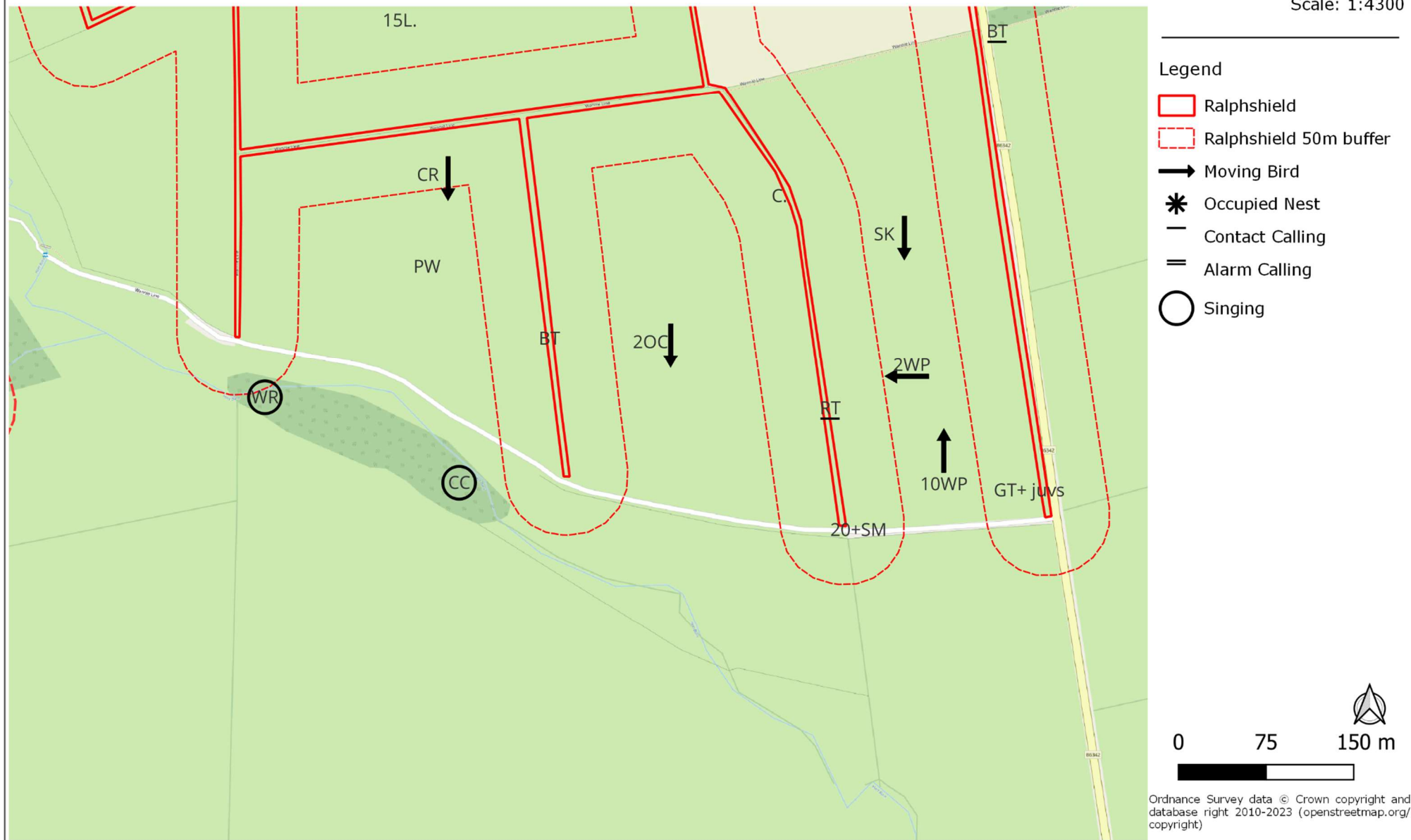


Figure 10: Registrations at Fairnley Farm July 2023

Drawn: A. Kinghorn  
Date: July 2023  
Scale: 1:5100

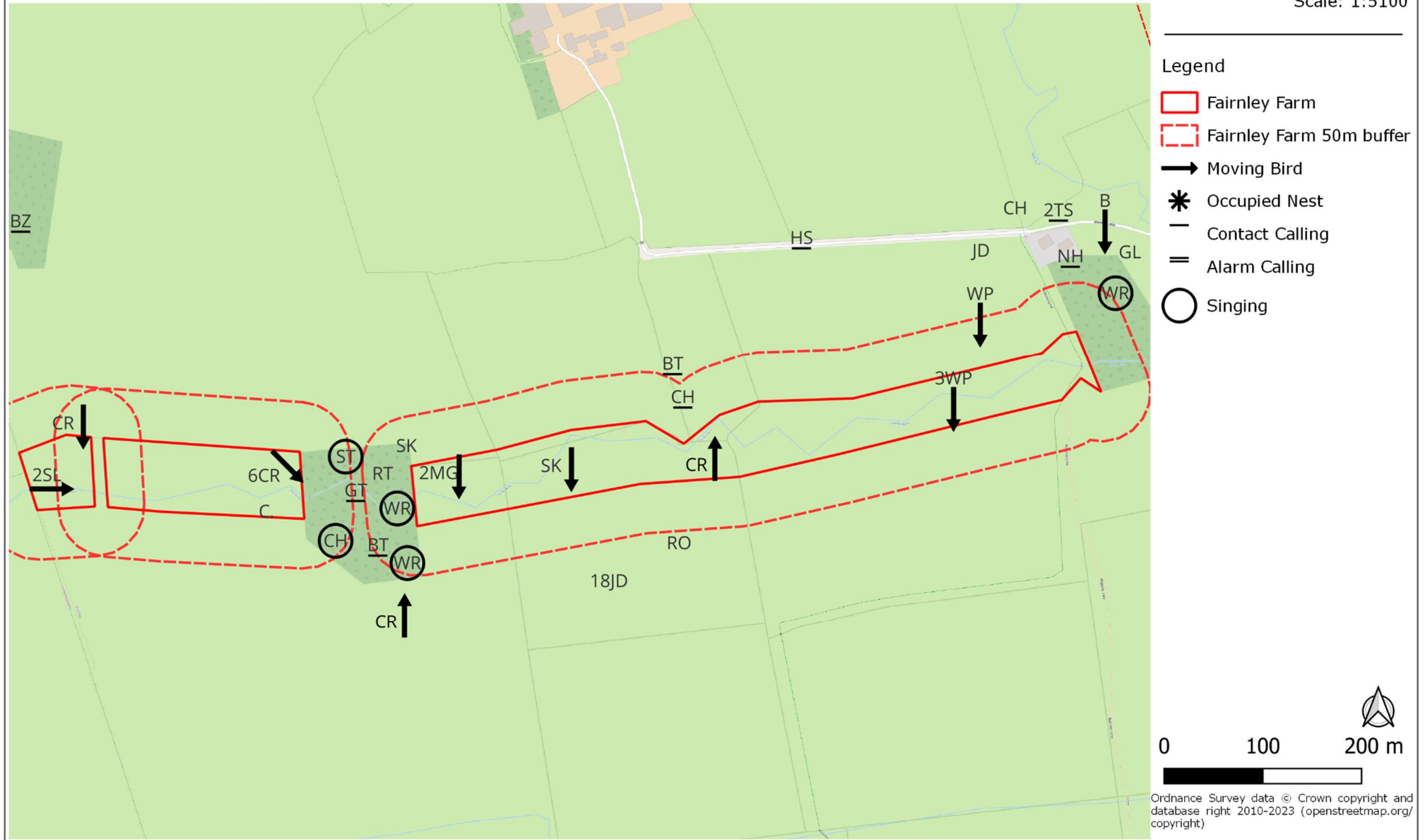






Figure 12: Registrations at Gallows Hill North July 2023

