

Ring Ouzel
Survey & Monitoring Report
2023

Eastern Moors & Burbage

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Report to:

**Eastern Moors
Partnership**



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1 Introduction

1.1 Overview

This report details the results of Ring Ouzel surveys and monitoring carried out in 2023 across the Eastern Moors Partnership estate.

This work is part of a project covering the wider area of the Eastern Edges (predominantly Stanage and Bamford edges to the north of EMP).

1.2 The Ring Ouzel

The Ring Ouzel *Turdus torquatus* is a migrant summer visitor to the UK, returning to upland areas from North Africa each spring. Ring Ouzels are typically associated with rocky moorland habitat, such as that found on the gritstone edges of the Peak District.

On the Peak District's eastern edges, the Ring Ouzel population is characterised by its close association with areas popular for recreation uses such as rock climbing and walking, and areas of high visitor numbers more generally.

The Ring Ouzel is of significant conservation concern in the UK due to severe breeding population declines, and moderate breeding range decline, over the last 25 years (Eaton et al., 2015).

1.3 Nest Monitoring and Protection

Each year I lead a team of volunteers who help to locate and monitor Ring Ouzel nests along the Eastern Edges. Nests which are considered at risk of disturbance are identified and, where necessary, signs are erected – either to temporarily restrict access to climbing routes, or divert people away from the nest area. The work is carried out in conjunction with EMP staff, and with Peak District National Park Authority staff at Stanage-North Lees.

This builds on the work of Bill Gordon, the former Stanage-North Lees estate warden, who began signing nests in the early 2000s, and developed a collaboration with the British Mountaineering Council (BMC) to protect nests. BMC volunteers continue to play a key role in the nest monitoring, along with members of Sheffield Bird Study Group and other local "ouzelers". Nest monitoring and nest protection for 2023 is reported in Section 5.

2 Survey

2.1 Methodology

The survey methodology is based on that used in the full Eastern Edges survey in 2016, and used for EMP surveys in subsequent years. See also Appendix A. Transects nominally spaced 200m apart were walked along features of likely Ring Ouzel habitat, and all activity recorded on paper maps using standard BTO notation (Appendix B).

Three survey visits were carried out for each transect, timed to correspond with every other visit of the intensive 6-visit survey of 2016 (Appendix A).

2.2 Survey Area & Transects

The survey area comprises the whole of the Eastern Moors Partnership landholdings (including the Burbage area). The transects are shown in Figure 1, and have been used (mostly) annually to monitor Ring Ouzel numbers. They cover areas originally surveyed in the wider Eastern Edges survey (Leyland, 2016).

The transects cover:

- Burbage area – including the main valley, Higger Tor, Carl Wark, Millstone and Houndkirk Tor.
- White Edge – including adjacent valley just on Longshaw Estate side of boundary.
- Curbar Edge.
- Barbrook Valley.

2.3 Analysis

All fieldwork data was digitised using QGIS. Territories were assessed using standard BTO categories to determine breeding evidence as possible, probable or confirmed breeding.

Territory analysis was carried out on the combined data from all three visits using QGIS. Territories were identified by clusters of records containing at least one of the “probable” or “confirmed” breeding registrations (in the case of singing males, at least two registrations). Registrations of pairs/activity from different visits were considered to represent different territories (in the absence of other evidence) if they were greater than 200m apart.

Where nest finding work was also undertaken, breeding evidence was assessed independently of this work (i.e. only data from the transect survey results were taken into account).

3 Results & Analysis

3.1 Survey Results

The survey results are presented in Table 1 below, with the total number of pairs for each area indicated – and taken as the combined total of “probable” and “confirmed” breeding records from the data analysis. The location of territories is also shown in Figure 2.

The survey covered the areas of Burbage, Hathersage and Houndkirk Moors (collectively Burbage Moors) together with White Edge, Curbar Edge and Barbrook Valley (Eastern Moors).

Table 1. Survey Results

Survey Area	Possible breeding (PO)	Probable breeding (PR)	Confirmed breeding (BR)	Total breeding (PR+BR)
Burbage Moors	1	3	1	4
Eastern Moors	0	1	0	1
Total	1	4	1	5

Three pairs were recorded in the main Burbage Valley area (though only two of these were confirmed during nest monitoring), with an additional pair confirmed breeding at Higger Tor, and a singing male on one visit at Carl Wark (possible breeding).

Millstone and Houndkirk areas remained unoccupied, with two birds in flight over Houndkirk during one survey visit the only record from these areas.

Further south on Eastern Moors, a pair at Curbar were confirmed to have bred through nest monitoring, but there were no sightings (on or off survey) at White Edge or Barbrook Valley.

Further details on the breeding pairs are provided in the nest monitoring section.

3.2 Comparison with Previous Years

As can be seen from Table 2 below, the survey results do not show any significant change over the last four years, with numbers lower than the 2016-2018 period, though the reduction in “possible” breeding numbers suggests a downturn in the number of birds more generally across the area.

Table 2. Survey – comparison with previous years

Burbage & Eastern Moors	Possible breeding (PO)	Probable breeding (PR)	Confirmed breeding (BR)	Total breeding (PR+BR)
2023	1	4	1	5
2022	3	3	3	6
2021	4	4	2	6
2019	5	4	1	5
2018	8	5	4	9
2016 *	3	8	3	11

* 6 survey visits rather than 3.

4 Nest Monitoring

Nest monitoring work was carried out alongside the survey transects across the Eastern Moors by myself and volunteer nest monitors.

This year was unusual in that the pairs identified by the survey and nest monitoring were slightly different, and two pairs which I consider were almost certain to have bred I was unable to confirm (nests not found) – through either survey or nest finding. Thus the 4/5 pairs found by nest monitoring and survey is actually possibly an underestimate.

The nest monitoring results are summarised in Table 3 below together with results from previous years.

Table 3. Nest success analysis – Eastern Moors & Burbage

Year	Pairs	Nests	Clutches hatched	Broods fledged	Fledged young	Fledged young per successful nest	Fledged young per pair	Nests fledging young	Hatched nests fledging young
2023	4 ^{##}	6	4	4	13	3.25	3.25	67 %	100 %
2022	6	9	8	7	24	3.43	4.0	78 %	88 %
2021	5	7	7	6	21	3.5	4.2	86 %	86 %
2020	7	9	7	6	22	3.67	3.14	67 %	86 %
2019	6*	7**	5	4	13	3.25	2.17 [#]	57 %	80 %
2018	5*	6**	5	5	19	3.83	3.8	83 %	100 %
2017	10	15	10	9	32	3.56	3.2	60 %	90 %
2016	10	17	11	9	31	3.44	3.1	53 %	82 %
2015	7	8***	7	6	21	3.5	3.0	75 %	86%

* Other pairs known to have bred but nests not found. ** Other nests fledged young but inaccessible. *** Two further nests likely to have fledged young, but not monitored. # Likely higher ## Two further pairs likely bred/attempted

While the number of pairs monitored was down on previous years, productivity still appeared good. It's hard to know what effect the "unfound" pairs would have had on productivity – certainly the number of chicks fledged may have increased, but despite strong evidence of breeding having been attempted, no fledged unringed juveniles were seen in the areas. This suggests these pairs may have been unsuccessful - and thus while number of pairs may have been higher than recorded, true productivity may have been lower.

Table 4 below provides details of the outcomes for each of the territories recorded.

Table 4. Ring Ouzel territories & outcomes

Territory	Breeding	Outcome
Burbage Bridge	Confirmed	1: Failed (predated egg stage). 2: Failed (predated egg stage).
Burbage North	Confirmed	Fledged 4.
Burbage Oaks	Likely	Pair seen carrying food in trees. Nest not found. (Only "likely" to reflect not 100% certain wasn't pair from some distance away).
Burbage South	Likely	Pair present through early season, including female in likely feeding flights during incubation period. Nest not found.
Higger Tor	Confirmed	1: Fledged 2+. 2: Fledged 3.
Carl Wark	Possible	Male singing occasionally.
Curbar	Confirmed	Fledged 4.
White Edge		No activity recorded this year.
Houndkirk		No activity recorded this year.
Millstone		No activity recorded this year.
Barbrook		No activity recorded this year.

At Burbage Bridge the pair nested in two different locations on the ground, both of which were predated at the egg stage. One location was very close to busy paths and required several signs (see also Section 5) to guide people away from/through the area. The pair were seen, by a member of the public, in an altercation with a pair of Carrion Crow around the time of one nest failure, and it is possible crows were the predator on both attempts. The pair had appeared to be favouring the west side of the brook earlier in the season, and may even have had an early failed attempt preceding these two.

At Burbage North, the regularly used Ash Tree Wall territory was occupied, though with a new nesting location requiring a restriction on a single popular boulder problem. The pair appeared to successfully fledge a nest of four young, but a couple of days afterwards, the (ringed) female was observed at Bamford Edge, around 6km north. This is an unusual (as far as I know until now) within-season movement and may have been due to the large fire across Burbage Moor above the nest site around fledging time. No further sign of adults or juveniles was seen in the locality.

At Burbage Oaks, early season activity was limited, however in late May I observed a pair (both unringed) carrying food in the trees and apparently heading to a nest. Despite further searching I could not find one, and there was only limited activity thereafter.

A pair at Burbage South quarries were repeatedly observed in the area with female behaving as if incubating, but the nest area could not be located, despite using two observers and some

long watches. They were possibly nesting behind the trees just north of the quarries, or tucked in the back of a quarry where difficult to observe without causing disturbance.

Higger Tor was the site of this season’s only successfully double-brooded pair across Burbage and Eastern Moors (and the whole of Stanage), but involved a couple of interesting occurrences.

The first brood was ringed at age 7 days, and post-fledging one chick was found just below the nest, dead (and with a injury), not much older. Later at least two young were seen at various times, but it is not known if the third fledged, however the male of the pair was apparently replaced, by a ringed male from a Stanage territory. One possible explanation is a predation attempt where a fledgling was killed (or injured and died subsequently) along with the male (defending?). The replacement male “adopted” the 2+ chicks from the brood, and was seen feeding them, and subsequently had a second (for the female) brood which fledged 3 chicks.

At Carl Wark, a male was observed singing on only two or three occasions through the season, and while a breeding attempt is possible, it is considered unlikely.

At Curbar, a pair maintained the now lonely (in the absence of any sightings at White Edge or Barbrook) outpost in the south of the monitoring area, with a successful breeding attempt – and in the most southerly part of the edge (whereas recent years have seen breeding slightly further north in the wooded area). The pair did move further north, and remained in the area for some time, but no evidence of a second breeding attempt was recorded.

Table 5 below shows the number of pairs found through nest monitoring this season, and in previous years by way of comparison. As with the survey results, the low number of “possibles” hints at a reduction in overall numbers, despite nesting pairs being on par with recent years.

Table 5. Breeding pairs from nest monitoring

Year	Nesting possible (A)	Nesting likely (B)	Nesting confirmed (C)	Total nesting pairs (B+C)
2023	1	2	4	6
2022	3	0	6	6
2021	4	0	5	5
2020	2	3	7	10
2019	4	1	6	7
2018	4	3	8	11
2017	2	2	10	12
2016	2	0	11	11
2015*	5	0	8	8

*Less intensive monitoring this year

5 Signing and Disturbance

Signing of nests was carried out as in previous years, with nests assessed on a case-by-case basis as to the potential for significant disturbance to occur. As always, a balanced judgement on the benefits of signs, versus the increased attention signs may also bring, is made. Table 6, below, details those territories where signs were used.

Table 6. Ring Ouzel territories where signs erected

Territory	Outcome	Notes
Higger Tor, first brood	Successfully fledged.	Bouldery area, signs above and below and to divert weaselling groups away.
Higger Tor, second brood	Successfully fledged.	Bouldery area, signs above and below for groups, and for some boulder problems.
Burbage North	Successfully fledged.	Single sign by nearby boulder problem.
Burbage Bridge, second brood	Failed, predated, egg stage.	Multiple signs asking people to keep to paths, keep dogs on leads and keep off one short section of path.

Signs were used at four of the six nests this year, with the single failure at Burbage Bridge most likely caused by predation – it is not known if disturbance was also a factor. The first nesting attempt here was further down in the gully, largely away from where people would walk, and no signs were used.

The second location was tucked below a small (rarely used) path but was still very close (within 10 metres) of the very busy path by the bridge (and focal point of the stream crossing). I didn't consider it feasible to restrict people from using this area, so the main aim was to keep people moving through the area and keep dogs on leads. From observations before the nest failed, this appeared to be largely successful, and the female was generally happy to return to the nest even in the presence of people nearby – as she would have to be to have any chance of success at this spot.

As in recent years, both nests at Higger Tor required a number of signs to divert people around the areas where each nest was located, with a number of potential routes where people may have ended up close to a nest. As previously, contact was made with local outdoor education centres to keep groups away from the nests, as both were in popular “weaselling” areas.

At Burbage North a new nest location was used this year, above a relatively popular boulder problem which was discretely signed (only visible to people arriving at the boulder). A rough path did pass fairly close to the nest, however in my experience this is rarely used, and no additional signs were considered necessary.

6 Colour Ringing

6.1 Background

In 2022 a proposal was submitted to, and accepted by, the BTO and Natural England, with the backing of three landowners across the Eastern Edges (EMP, PDNPA and the Moscar Estate), to individually colour-ring Ring Ouzel chicks in the nest. This will enable us to establish how many of the ringed birds return to breed in subsequent years, providing data on juvenile survival/return rates, and enable us to track how birds use the area during the breeding season once colour-ringed adults are present within the population.

6.2 Ringing

Ringing was started in 2022 and this was thus the second year. Ringing is carried out by licenced ringers from Sorby Breck Ringing Group.

Across Eastern Moors and Burbage, four of the six nests found reached ringing age, and 15 chicks in total were ringed, of which at least 13 subsequently fledged successfully. In one nest at Higger Tor one juvenile was known to have died out of the nest, and only two were confirmed to have fledged – the fate of the fourth chick is unknown.

A further 28 chicks were ringed at other sites, of which 25 successfully fledged, giving a total of 38 fledged colour-ringed chicks for the Eastern Edges area as a whole.

6.3 Re-sightings from 2022

Table 7 below shows the colour-ringed ouzels which were sighted from last year's ringed cohort.

Table 7. Returning colour-ringed Ring Ouzels

Ring combo	Sex	2023 territory	Location ringed in 2022	Notes
B/B	Male	Stanage Popular End	Unknown (one ring missing)	Moved to Higger Tor after failed breeding at Stanage.
R/Y	Female	Burbage North	Stanage (Cowperstone)	Missing blue top ring (initially present and reported).
B/Y/R	Male	Bamford Gully	Higger Tor	
B/O/W	Male	Whinstone Lee Tor	Stanage (High Neb)	
B	Female	Burbage Valley	Unknown (two rings missing)	Probable breeding but nest not found.
B/R/R	Female	Bamford Wrinkled Wall	Stanage (Cowperstone)	

This shows 6 out of 51 colour-ringed birds returned to the breeding area. No reports of ringed birds were received from outside the monitoring area (Whinstone Lee Tor is actually just north of the A57, where we do not usually monitor at the same intensity, though information is passed on by visiting birders).

This gives a return rate of approximately 12 %, which compares favourably with other reported rates of 3.3 % and 5 % (Moorfoots and Glen Esk respectively, 1998-1999, Burfield 2002) and 4.3 % (Glen Clunie, 1998-2002, Sim *et al.* 2011).

It is unfortunate that a number of rings were lost, and we have not identified any obvious cause of this as yet (brittle plastic is one possibility).

6.4 Within-season Movements

Two particularly notable movements within the breeding season were recorded. As mentioned in Section 4, the R/Y female from Burbage North was at Bamford Edge (some 6km north) on 8th June. She was in the Wrinkled Wall territory, very close to an active nest where the female was sitting with a brood just hatching. This was the last sighting of her this season.

As also detailed in Section 4, the B/B male from Stanage Popular End moved to Higger Tor and “adopted” the fledged brood from that territory and remained to complete a brood with the

female there. There are no records I can find of this behaviour in Ring Ouzels previously, although polygyny, with a single male mated to two females, has been recently documented, including at Stanage in 2006 (Rebecca *et al.* 2023).

7 Discussion

7.1 Season Overview

The season began with an early sighting of one of the first colour-ringed birds to return from last year (B/B male at Stanage) which was welcome and set high hopes for the rest of the season.

It was apparent through April that numbers appeared to be low overall, though some birds which did pair up quickly were very early to begin breeding. Notably the pair at Curbar, with the joint-earliest first egg date in the last seven years of monitoring on the Eastern Edges (two pairs at Bamford were also only a few days behind).

With the exception of the Curbar pair, sightings across the Eastern Moors Partnership site were restricted to the core Burbage Valley area. Even here some pairs proved elusive and, frustratingly, two additional pairs to those recorded may have at least attempted breeding.

Failure due to nest predation was the case for several first brood nests across the wider Eastern Edges area, and it was notable this year that many pairs were not found to attempt a second brood. This may have been related to the prolonged severe dry spell through May and into June, which led to baked ground in many places and likely left earthworm availability in particular much reduced.

While the double brood at Higger Tor provided a boost to the productivity rate, the low number of pairs monitored meant the number of fledged young recorded was the lowest since 2019.

7.2 Survey

While the survey results indicate the number of pairs has remained stable over recent years, the low number of “possible” records give a lower potential for missed pairs to be present (despite the fact that nest monitoring indicated this may have been the case).

In previous years early singing males, which then appear to move on, have been recorded as “possible” breeding records. This did not seem to happen this year, which may reflect either a general downturn in numbers or the lack of a large early influx of males.

7.3 Nest Monitoring

The nest monitoring gave similar results to the survey, with again the number of “possible” records being low, while overall numbers were similar to recent years.

If anything, it is likely that productivity was lower than that recorded, due to observations suggesting that pairs not found are more likely to have failed than have been successful.

7.4 Colour Ringing

Overall the colour ringing was again successful, despite the lower absolute number of chicks ringed. All four nests which reached ringing age fledged, though at least one, possibly two, chicks were lost from one nest.

In terms of re-sightings of last year's birds, this was very successful and provided some insights which would otherwise have been unknown. This was despite the loss of rings from some birds. The movement of the Burbage North female to Bamford, the presence of the single-blue-ring female as an additional (probable) breeder and the movement of the male from Stanage Popular would all have been unknown without the colour rings.

The return rate of birds was higher than has been typically recorded in other study areas, and it will be interesting to see if this is replicated in future years.

8 References

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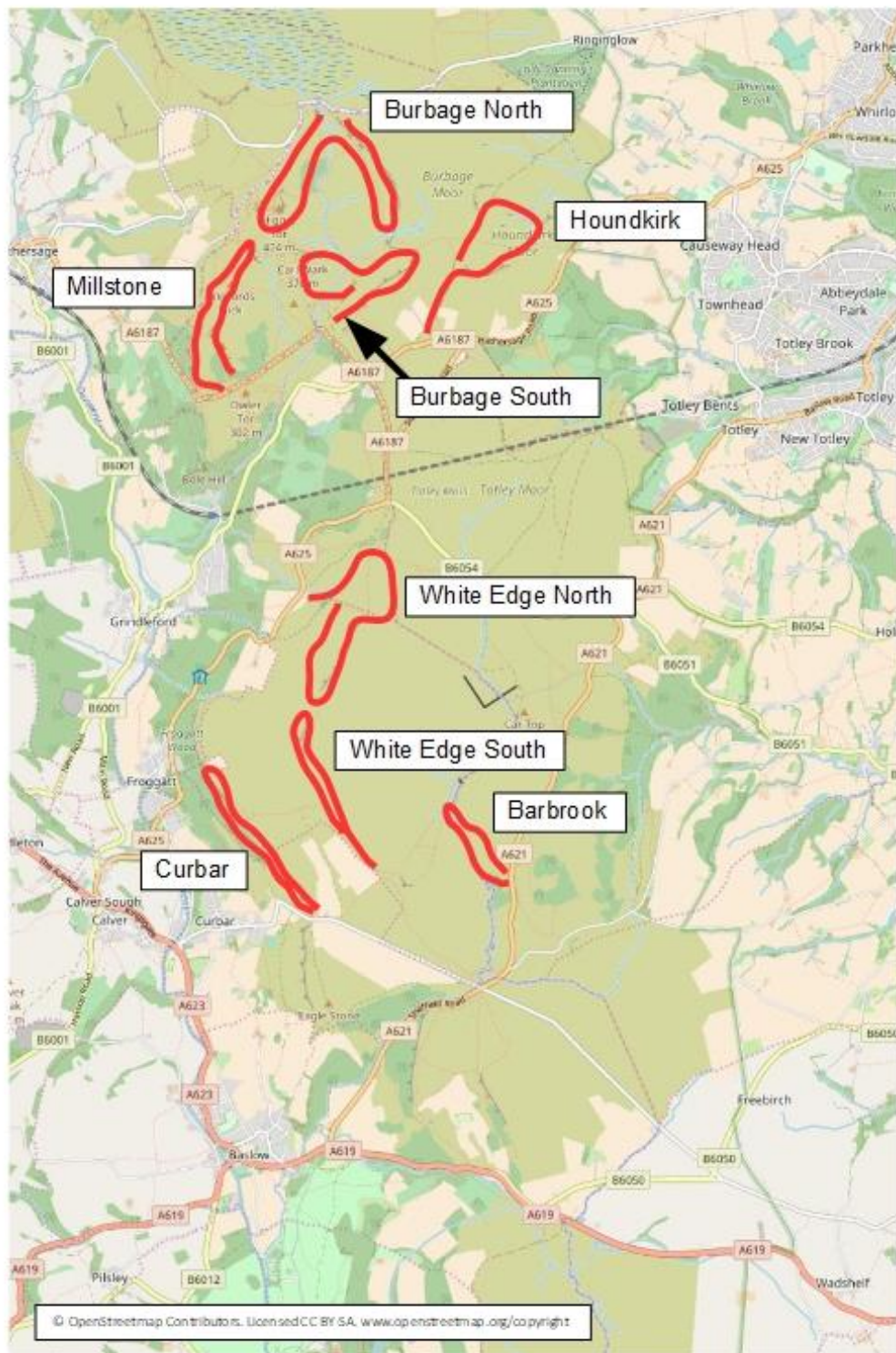


Figure 1. Transect survey routes (indicative)

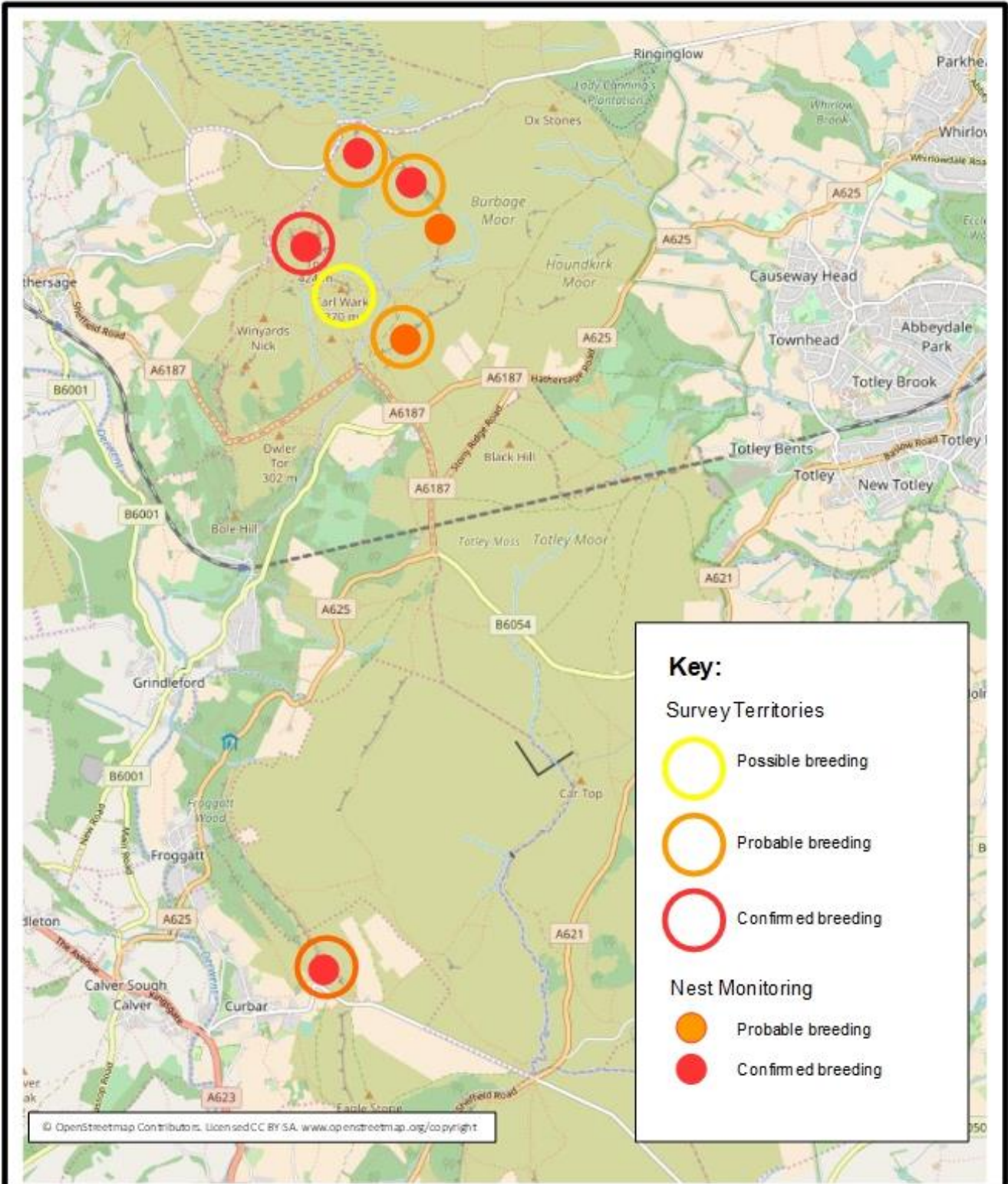


Figure 2. Territories

Appendix A

Ring Ouzel Survey 2023 - Methodology

This methodology has been developed using the “Standardisation of Ring Ouzel Recording” document produced by the Ring Ouzel Study Group, and following discussion with Innes Sim and RSPB staff. The method has mainly been adapted to be used without tape playback.

Defining transect lines

Most sites have known/suspected territories and most are defined by the presence of a crag/rocky edge.

Primary transects should aim to follow these features with secondary and further transect lines added alongside as is necessary/practical to cover potential habitat.

Transects should be spaced approximately 200m apart, following contours where possible (this is also likely to be the most practical route in most cases).

On the first, or recce, visit, mark the transect line on a separate map and use this same route on each subsequent visit.

Method

Walk slowly along transects stopping at regular intervals (at least every 200m) and scan suitable grassy feeding areas and song perches for birds.

Mark all sightings on maps using BTO symbols (see attached sheet), preferably in red ink.

Use dashed or solid lines to distinguish different/moving birds (simultaneous registrations are very useful).

Where multiple birds are heard/sighted, take time to establish locations and numbers.

Especially later in the season, take time to watch foraging birds (especially females) returning to likely nest sites.

Visits should ideally be started within 1 hour of dawn, and completed by 11am.

Visits should be at least one week apart.

Visits should not be undertaken in excessively wet or windy weather.

Number of visits/timing

Minimum requirement is 2 visits, as per “RSPB Standard” below (i.e. Visit 2 or 3 AND Visit 4 or 5 or 6).

The three visit schedule will provide the most useful results – so a rough guide is one visit in the second half of each month (April, May, June).

Any additional visits will improve detection and help locate early/late birds, re-lays and second broods.

Month	Week	Dates	6+ Visit	3 visit	RSPB standard Ring Ouzel 2-visit
April	1	4 th – 17 th April	Visit 1		
April	2				
April	3	18 th April – 1 st May	Visit 2	Visit (1)	Visit 1 mid-April - mid-May
April	4				
May	1	2 nd – 15 th May	Visit 3		
May	2				
May	3	16 th – 29 th May	Visit 4	Visit (2)	Visit 2 mid-May - June
May	4				
June	1	30 th May – 12 th June	Visit 5		
June	2				
June	3	13 th – 26 th June	Visit 6	Visit (3)	
June	4				
July	1	Early July	(Visit 7)		
July	2				
July	3	Late July	(Visit 8)		
July	4				

Nest finding

If it is possible to locate nests without deviating significantly from the survey method, then please do so, and let me know as soon as possible.

Please don't record any birds which you “know” are there (e.g. from nest monitoring activities) but which you do not see on the survey day. You can make an additional note that a pair is known to be present but were not seen.

Appendix B

BTO Breeding Status Codes

Possible breeder

- H Species observed in breeding season in suitable nesting Habitat
- S Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat

Probable breeding

- P Pair observed in suitable nesting habitat in breeding season
- T Permanent Territory presumed through registration of territorial behaviour (song etc) on at least two different days a week or more apart at the same place or many individuals on one day
- D Courtship and Display (judged to be in or near potential breeding habitat)
- N Visiting probable Nest site
- A Agitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby
- I Brood patch on adult examined in the hand, suggesting Incubation
- B Nest Building or excavating nest-hole

Confirmed breeding

- DD Distraction-Display or injury feigning
- UN Used Nest or eggshells found (occupied or laid within period of survey)
- FL Recently FLedged young). Careful consideration should be given to the likely provenance of any fledged juvenile capable of significant geographical movement. Evidence of dependency on adults (e.g. feeding) is helpful. Be cautious, even if the record comes from suitable habitat.
- ON Adults entering or leaving nest-site in circumstances indicating Occupied Nest (including high nests or nest holes, the contents of which cannot be seen) or adults seen incubating
- FF Adult carrying Faecal sac or Food for young
- NE Nest containing Eggs
- NY Nest with Young seen or heard

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