CONSERVATION & MONITORING REPORT 2023: 5

The Status of the Ring Ouzel *Turdus torquatus* on Grassington Moor in 2022

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The status of the Ring Ouzel *Turdus torquatus* on Grassington Moor in 2022

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The fieldworkers Rob Pople (left) and Ian Burfield (right) surveying a Ring Ouzel territory in the southern part of Ian Appleyard's study area.

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SUMMARY

In 2022, the breeding Ring Ouzel population on Grassington Moor was re-surveyed by visiting 30 territories identified and studied during 1978 to 1993 and last surveyed in 2002. The figure of eight to ten occupied territories in 2022 was very similar to the nine recorded in 2022 and the average (*c.* nine) during 1978 to 1993. This suggests that the population may have remained relatively stable, at least over the past 20 years, although unknown differences in survey effort complicate longer-term comparisons. Re-establishing annual monitoring would yield valuable data for the conservation and management of this species.

INTRODUCTION

The Ring Ouzel *Turdus torquatus* is a Red-listed 'Bird of Conservation Concern' in Britain, having experienced a significant decline in its breeding population and a marked contraction in its breeding range over recent decades (Stanbury *et al.* 2021). The British population declined by around 29% overall between the two national surveys in 1999 and 2012 (Wotton *et al.* 2002, 2016), and it is estimated that only 5,300–6,300 pairs remain, in upland areas concentrated in the north and west.

Valuable information on changes in the species' distribution and abundance at finer scales has come from a range of local studies by dedicated volunteers, especially members of the Ring Ouzel Study Group (RZSG), which has promoted coordinated research and monitoring of Ring Ouzels in Britain since its inception in 1998. The data from many of these studies were summarised by Sim *et al.* (2010), showing that declines were widespread and serious, with 13 of the 14 study populations covered having declined (over periods from seven to 27 years), including 11 in which the decline had exceeded 50% (including two that went locally extinct). Many of these local studies continue today.

Conspicuous by its absence from the studies collated by Sim *et al.* (2010) was that conducted by the late Ian Appleyard on Grassington Moor in the southeast Yorkshire Dales National Park (YDNP) from 1978 to 1993 (Appleyard 1994). Over that period, he identified 29 Ring Ouzel territories in the area between Conistone Moor in the north and Hebden in the south (Figure 1). By collating and analysing his data, Burfield (2002) was able to locate and reconstruct the annual occupancy of most of these territories, and hence the overall study area (Table 1). Over the whole period (1978 to 1993), Appleyard recorded an average of *c*. nine occupied territories per year, but the wide range (1 to 16) suggests that his survey effort may have varied considerably between years. During 1985 to 1991, when his effort may have been more consistent and/or more intensive (after he retired from work and could invest more time?), he recorded *c.* 14 occupied territories per year (range: 10 to 16).

Table 1. Number of occupied Ring Ouzel territories on Grassington Moor during 1978 to 1993 (Appleyard 1994), highlighting the period 1985 to 1991 when numbers were highest.

Year (1978–1993)	78	79	80	81	82	83	84	**85**	**86**	**87**	**88**	**89**	**90**	**91**	92	93
Occupied territories	1	5	3	1	4	5	7	**14**	**15**	**15**	**16**	**10**	**15**	**15**	8	2

A decade after the end of Appleyard's study, the Yorkshire Dales National Park Authority (YDNPA) organised a survey of the Ring Ouzel population on Grassington Moor in 2002 (Straker and Wright 2002). Between 22 March and 6 June 2002, each of the 29 territories

was systematically searched for at least one hour on at least two occasions, recording the presence or absence of territorial males, pairs and/or confirmed breeding. Overall, nine territories were considered occupied, including one (Black Edge) not described by Appleyard, bringing the total to 30. This figure was similar to the 1978 to 1993 average, but lower than the 1985 to 1991 average.

Wary of drawing conclusions by comparing the results of the multi-year study by Appleyard with their one-off survey, Straker and Wright (2002) emphasised the need for re-establishing annual monitoring to provide a more accurate picture of the situation. Unfortunately, despite efforts by the YDNPA and RZSG, it was not possible to find anyone to restart the long-term study. Consequently, the status of the population remained uncertain, and it could not be included in Sim *et al.* (2010).

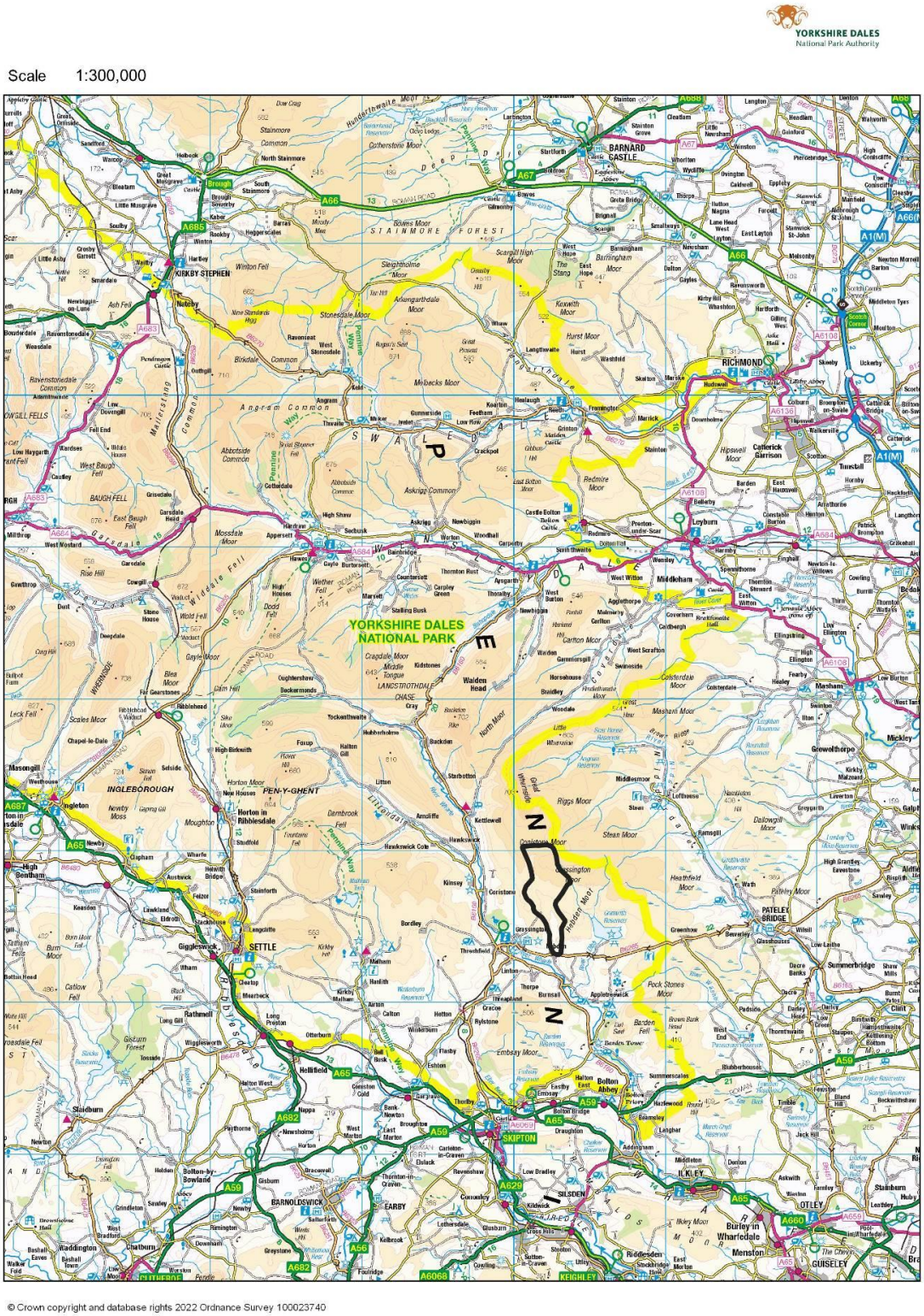
In 2019, the YDNPA secured resources for another survey of the Grassington Moor population, as part of a three year project led by the Our Common Cause: Our Upland Commons (Our Upland Commons). As no local fieldworkers were available to undertake the survey, project funding for travel and subsistence costs enabled Ian Court (YDNPA Wildlife Conservation Officer) to take up the offer by Ian Burfield and Rob Pople to undertake the fieldwork in a voluntary capacity. Despite not having conducted any breeding season fieldwork in the study area, Ian Burfield had previously spent a day there in June 1997 with Ian Appleyard, who showed him many of the territories, and two weeks in September 1999, undertaking detailed habitat assessments in 24 territories as part of his PhD fieldwork (Burfield 2002). COVID-19 restrictions prevented the survey from taking place in 2020 or 2021 as originally planned, but it finally went ahead in spring 2022: 30 years after the end of Appleyard's study, and 20 years after Straker and Wright's survey.

THE GRASSINGTON MOOR STUDY AREA

The area studied by Appleyard is in the south-east of the Yorkshire Dales National Park and covers approximately 12 km^2 of heather moorland and moorland fringe habitat to the north of Hebden near Grassington (Figure 1). The main habitat types within the study area are upland heath, blanket bog and upland acid grassland, with areas of calaminarian grasslands associated with some extensive former lead mine workings. A large part of Appleyard's study area is common land where multiple different stakeholders have grazing, mineral and shooting rights across the area, falling within the current Grassington Moor "Our Common Cause" project area.

The Ring Ouzel territories that have been identified within the study area are shown in Figure 2. No grid references are given within this report, but precise details of all territory locations are held by the YDNPA.

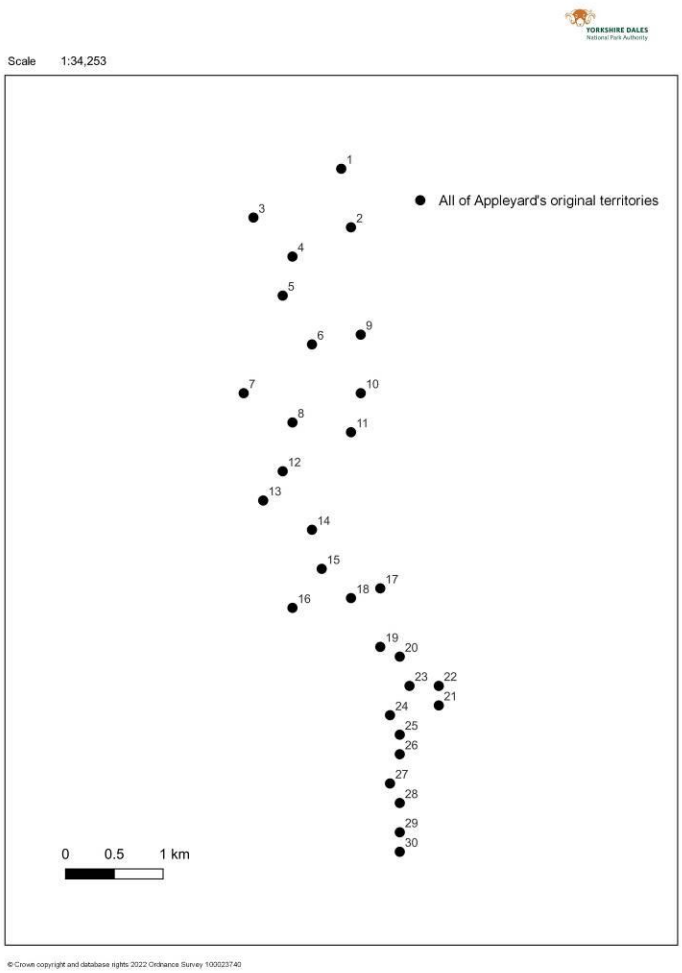
Figure 1. Location of the Grassington Moor study area within the Yorkshire Dales National Park.



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Figure 2. The site number, name and location of the Ring Ouzel territories on Grassington Moor.

No.	Territory name
1	Rowan Tree Scar
2	Mossdale Shooting Lodge
3	Mossdale Shakehole
4	Mossdale Cavern
5	Escarpment
6	Black Edge
7	Gill House Beck
8	Gill House Quarry
9	Black Edge Shakehole
10	How Gill Nick
11	Ruin below How Gill Nick
12	Top of Dry Valley
13	Wall above Crag
14	The Crag
15	Zig-Zag Shakehole
16	Yarnbury
17	Cupola Quarry
18	The Ravine
19	Top Barn
20	Barn Sheepfold
21	Bolton Haw Crags
22	Behind Bolton Haw
23	Bolton Gill
24	The Ruin
25	Bridge by Waterfall
26	Waterfall
27	Lower Gate Hebden Gill
28	Water Tower
29	Scar Top House
30	Scar Side House



In order to give some context to the survey area, photographs of some of the territories are included to give an indication of the location and habitat type. Figure 3 shows Territory 30: Scar Side House at the southern end of Hebden Gill at *c*. 260 m. Moving north up the gill, Figure 4 shows Territory 20: Barn Sheepfold. Hebden Gill then starts to open out onto the managed heather moorland from Territory 19: Top Barn northwards, with Territory 2: Mossdale Shooting Lodge shown in Figure 5 at an altitude of *c*. 460 m, more typical of the territories at the northern end of the study area on Grassington Moor.

Figure 3. Ring Ouzel Territory 30: Scar Side House



Figure 4. Ring Ouzel Territory 20: Barn Sheepfold.



Figure 5. Ring Ouzel Territory 2: Mossdale Shooting Lodge.



METHODOLOGY

In 2022, each territory was surveyed at least once between 24 and 28 April and again between 12 and 16 June, in line with the recommended periods for early and late season visits used in national surveys (Wotton *et al.* 2016). Many territories were surveyed twice during one or both of those periods, i.e. three or four times overall. With very few exceptions, both surveyors participated in every territory visit, occasionally splitting up (but remaining in sight of each other) where needed to cover the territory thoroughly. In general, the technique was to walk slowly through each territory, scanning with binoculars and listening for Ring Ouzels, before finding a suitable vantage point to scan further.

Playback was used to help elicit a response from any Ring Ouzels present, which can otherwise be difficult to detect (Wotton *et al.* 2016). The song recording was the same as that used in the national surveys, saved as an MP3 file on a Micro SD card and played through a Mifa A1 portable speaker. After 5 minutes of scanning from the vantage point, the recording was played for 1 minute. Another 5 minutes were then spent listening and watching, with the two surveyors scanning different areas to maximise the chance of detection. Combined with the time spent walking into, through and out of each territory, this meant that each visit lasted at least 20 minutes, and often more than 30 minutes.

The locations of any Ring Ouzels seen or heard on each visit were recorded on a 1:10,000 scale Ordnance Survey map, using standard British Trust for Ornithology (BTO) symbols to denote their behaviour and breeding status (Bibby *et al.* 2000). Birds present in suitable

nesting habitat but showing no signs of territorial behaviour were also recorded, and the vantage points used for song playback were also mapped. At the end of the early (April) and late (June) visits, all Ring Ouzel records were summarised on a single map, to help the surveyors to interpret likely occupancy. Sightings of Ring Ouzels reported by the local gamekeepers were also mapped and considered.

RESULTS

The distribution of Ring Ouzel territories on Grassington Moor indicating the frequency of occupancy between 1978 and 1993 is shown in Figure 6, and between 1985 and 1991 in Figure 7. The occupancy of Ring Ouzel territories on Grassington Moor in 2002 is shown in Figure 8.

During the course of the 2022 survey, it became evident that two of the territories identified by Appleyard (Bolton Gill and Bolton Gill Bracken) were in fact the same territory, reducing the number to 29. It also emerged that the grid reference for another territory (Crocker's Shakehole) was unfortunately erroneous, and the actual site could not be located for the survey, reducing the number to 28. However, information from the gamekeepers meant that these changes were offset by multiple reports of birds in a hitherto unknown territory (Gill House Beck) and by confirmation of breeding in an accessible territory (Rowan Tree Scar) just outside Ian Appleyard's original study area, giving a total of 30 once more.

Of the 30 territories that were surveyed in 2022, or where the gamekeepers reported sightings, between eight and ten were considered to be occupied (Table 2; Figure 9). The minimum of eight includes territories where breeding was confirmed (e.g. active nests, fledged young) or probable (e.g. singing males, paired birds). The maximum of ten also includes one territory where a pair were seen on one visit only and considered likely to have visited from a neighbouring territory, and another where the gamekeepers reported a trio of birds on a few occasions in April, although these could have been late migrants.

In late April, a group of six Ring Ouzels (three males and three females) was recorded in several territories in the southern part of the study area (along Hebden Beck) on consecutive days. They displayed no territorial behaviour, and were considered most likely to be a party of late migrants, still heading north. In upland areas like the YDNP, small groups of Ring Ouzels such as this can be encountered in spring along the moorland fringe, and are indicative of passage birds rather than local breeders. Despite evidence for one of the territories they passed through (Bolton Gill) probably already being occupied by a pair in April, there was no sign of any antagonistic interactions. By the time of the second survey visits in June, there was no sign of any birds in the territories along Hebden Beck.

Table 2. Occupancy of Ring Ouzel territories (as shown in Figure 2) on Grassington Moor between 1978 and 1993, 1985 and 1991 (a subset of the preceding data column), 2002 and 2022.

#	Territory name	Altitude (m)	Occupancy (1978–1993)	Occupancy (1985–1991)	Occupied in 2002?	Occupied in 2022?	RZ recorded in April 2022	RZ recorded in June 2022	Details and additional information from gamekeepers
1	Rowan Tree Scar	450	n/a	n/a	n/a	Yes	No	No	Keeper reported present, and saw fledged young later
2	Mossdale Shooting Lodge	420	2	2	No	Yes	Pair+M (26/04)	Pair+FL (14/06)	Family (adults and fledged young) seen in June
3	Mossdale Shakehole	450	6	4	No	Yes	Pair+M (26/04)	Pair+M (16/06)	Probably two pairs (one visited #4); male also sang
4	Mossdale Cavern	420	6	4	Yes	Yes	No	Pair (16/06)	Same pair as #3; nest prospecting but flew back
5	Escarpment	470	2	2	Yes	Yes	No	No	Keeper reported a singing male and saw a pair later
6	Black Edge	470	n/a	n/a	Yes	No	M (26/04)	No	Flew NW; possibly same bird as #5
7	Gill House Beck	380	n/a	n/a	n/a	Possibly	No	No	Keeper reported a trio a few times in April; migrants?
8	Gill House Quarry	410	1	1	No	No	No	No	
9	Black Edge Shakehole	490	6	5	No	No	No	No	
10	How Gill Nick	450	8	7	Yes	Yes	Pair+NE (28/04)	Pair+NY(15/06)	1st nest found with eggs; 2nd nest found with chicks
11	Ruin below How Gill Nick	410	2	2	No	No	No	M (15/06)	Male from #10 fed here; then flew back up to nest
12	Top of Dry Valley	370	3	2	No	Possibly	Pair (25/04)	No	Male also sang; possibly birds from either #7 or #14
13	Wall above Crag	350	2	1	No	No	No	No	
14	The Crag	330	13	7	Yes	Yes	Pair (27–28/04)	No	Male also sang; keeper saw fledged young later
15	Zig-Zag Shakehole	340	5	4	No	No	No	No	
16	Yarnbury	370	4	2	Yes	No	No	No	
17	Cupola Quarry	335	6	4	No	No	No	No	
18	The Ravine	310	11	7	No	No	No	No	
19	Top Barn	295	2	1	No	No	No	No	
20	Barn Sheepfold	285	11	6	Yes	No	2M+2F (28/04)	No	No territoriality; same birds as #25 and #30, still migrating?
21	Bolton Haw Crags	350	3	3	No	No	Pair (25/04)	No	Flew downhill to W; possibly same pair as #23
22	Behind Bolton Haw	345	8	6	Yes	No	No	No	
23	Bolton Gill	300	6	5	No	Yes	Pair (25–27/04)	No	Male also sang on 27/04; possibly same pair as #21
24	The Ruin	270	5	4	No	No	No	No	
25	Bridge by Waterfall	250	3	3	No	No	3M+3F (27/04)	No	No territoriality; same birds as #30, still migrating?
26	Waterfall	250	8	6	No	No	No	No	
27	Lower Gate Hebden Gill	240	2	2	No	No	No	No	
28	Water Tower	300	1	1	No	No	No	No	
29	Scar Top House	290	2	2	No	No	No	No	
30	Scar Side House	250	1	1	Yes	No	3M+3F (26/04)	No	No territoriality; same birds as #25, still migrating?

Figure 6. Distribution of Ring Ouzel territories on Grassington Moor indicating the frequency of occupancy between 1978 and 1993.

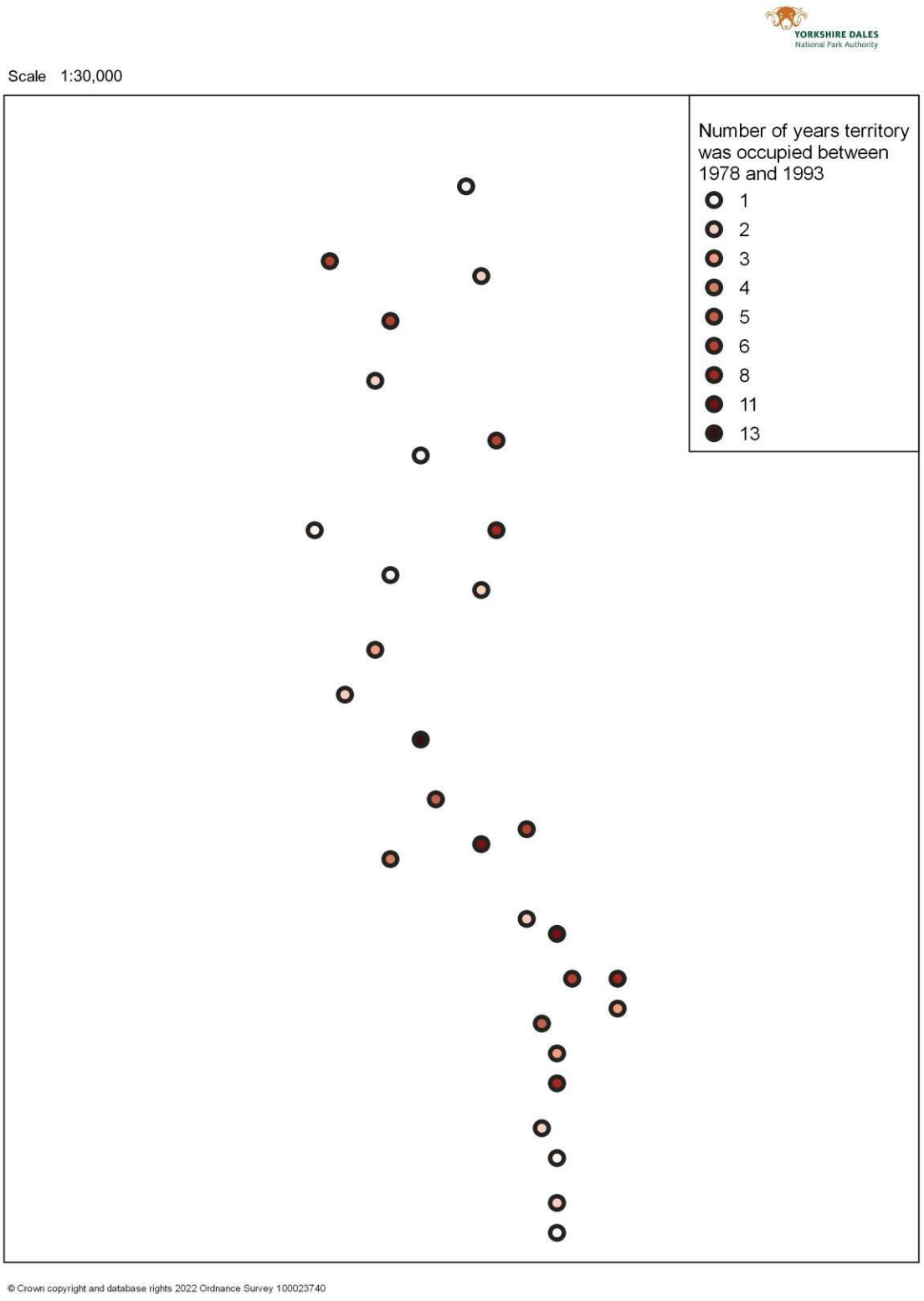


Figure 7. Distribution of Ring Ouzel territories on Grassington Moor indicating the frequency of occupancy between 1985 and 1991.

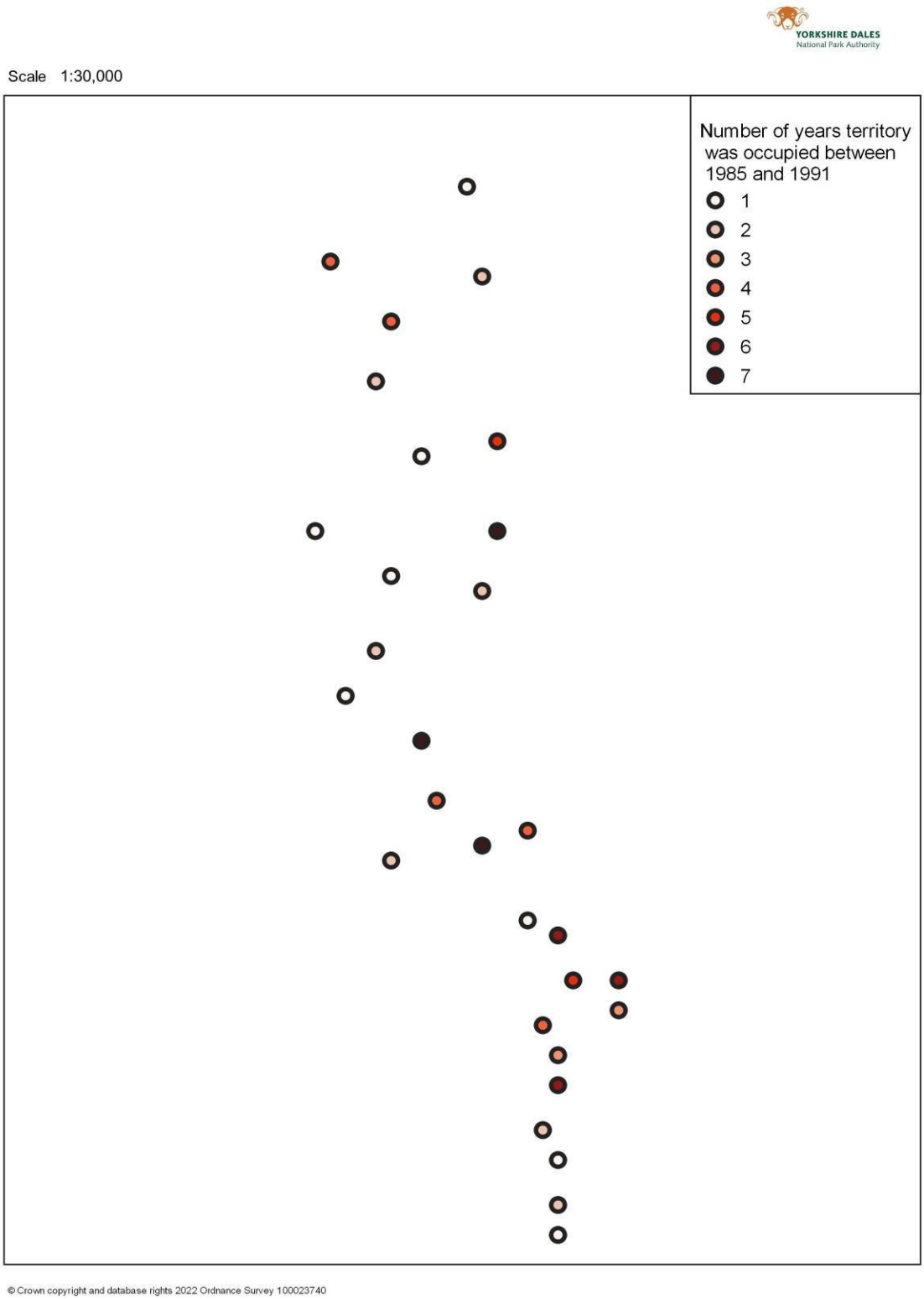


Figure 8. Occupancy of Ring Ouzel territories on Grassington Moor in 2002.

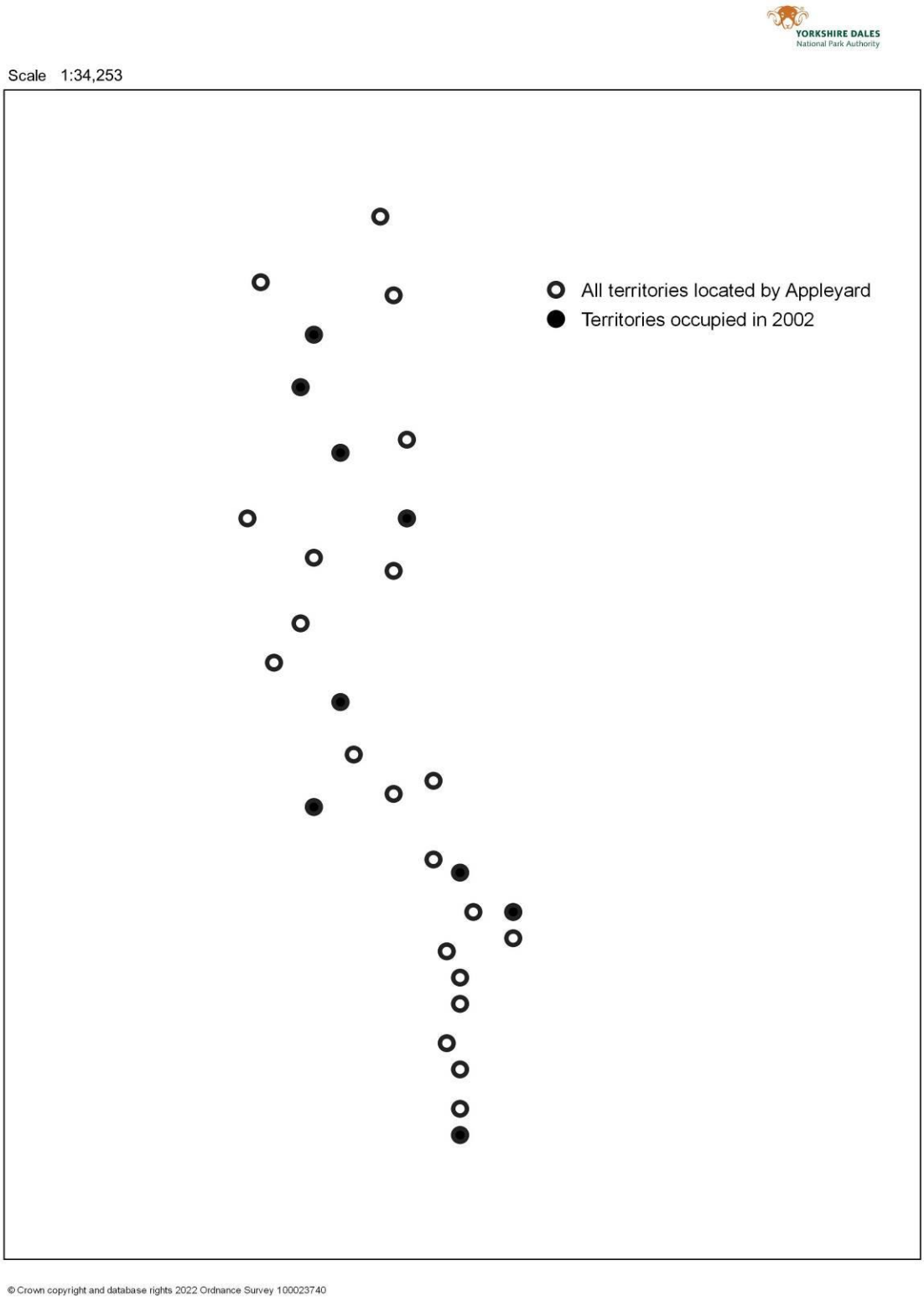
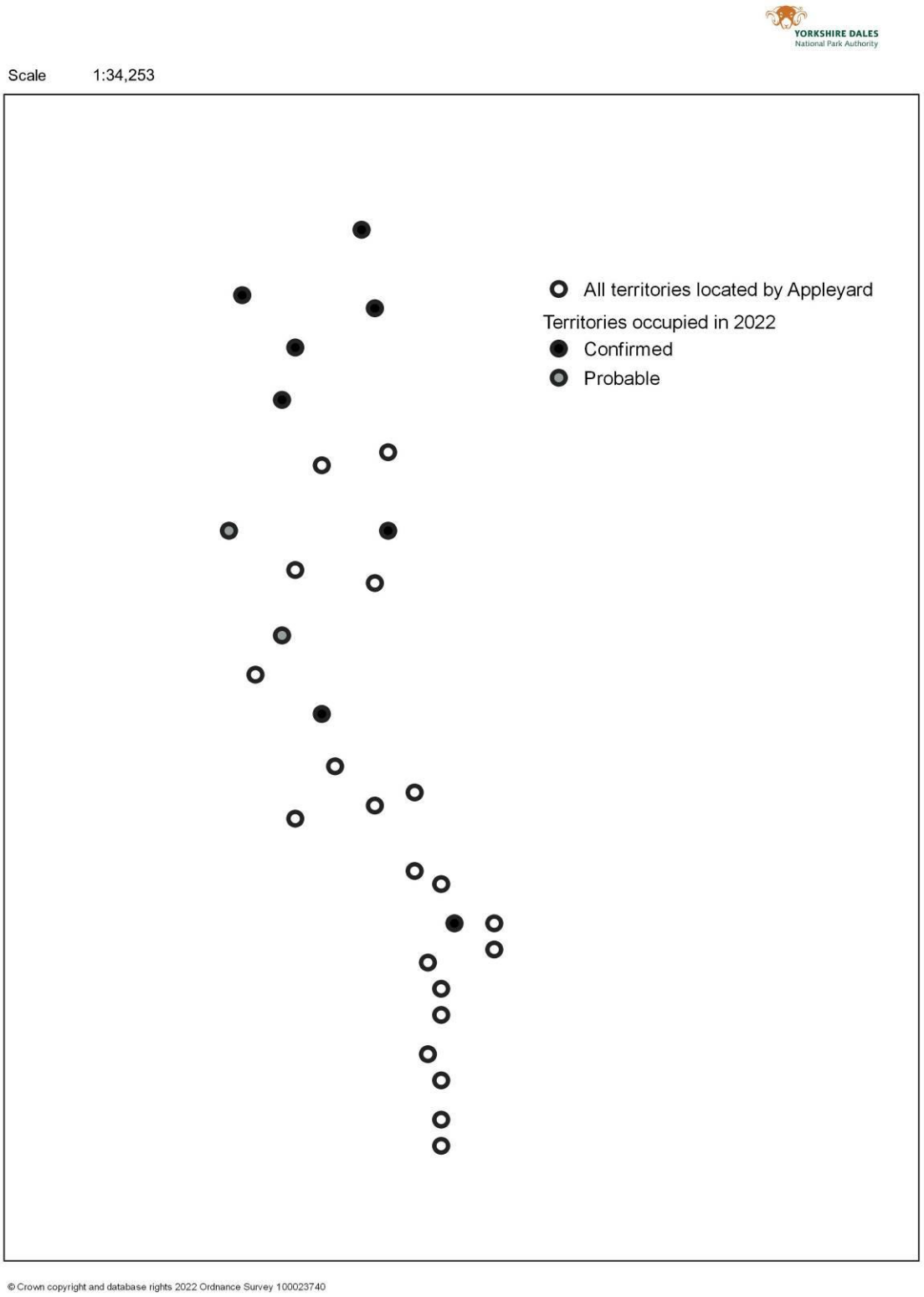


Figure 9. Occupancy of Ring Ouzel territories on Grassington Moor in 2022.



DISCUSSION

The total of between eight and ten occupied territories in 2022 was very similar to the nine recorded in 2022 (Straker and Wright 2002) and the average (*c*. nine) during 1978 to 1993 (Appleyard 1994). This suggests that the Ring Ouzel population on Grassington Moor may have remained relatively stable, at least over the past 20 years. The numbers in 2002 and 2022 were both lower than the average (*c.* 14) recorded during 1985 and 1991, but without knowing how much effort Ian Appleyard invested in different years, it is difficult to assess which of these averages is more comparable to the 2002 and 2022 surveys. It will be interesting to see the results from other local studies where annual monitoring is undertaken to understand how their Ring Ouzel populations fared in 2022 compared to previous years, as this may help to put the results of this survey into context.

Most of the occupied territories in 2022 were located in the northern half of the study area, on the northern part of Grassington Moor and the southern part of Conistone Moor (Figure 9; Table 2). Very few birds were detected on the southern part of Grassington Moor and along Hebden Beck, where even the few territories that appeared to be occupied in April did not obviously hold birds in June. Even if some of the April birds were migrants, the lack of detections in June was unexpected. Some of these territories ranked among the most frequently occupied in Appleyard's study, rather than sites used only exceptionally. Several of them were occupied in 2002; but even then, many other territories in the lower valley that held birds regularly in the late 1980s were not occupied.

Without more regular (preferably annual) monitoring of territory occupancy and breeding success, explaining the cause(s) of the observed changes must remain speculative. Thus, it is difficult to explain why the southern half of the study area holds fewer birds today, or even to assess whether the results of the surveys in 2002 and 2022 were representative or 'typical'. Many diverse factors could be involved, and even in other well-studied Ring Ouzel populations (e.g. Sim *et al.* 2010) it has often proven challenging to identify the demographic drivers of population changes.

Although no detailed weather data are available for the study area, summary climate information from the Met Office reveals below average rainfall in both spring and summer 2022. Anecdotal observations during the course of fieldwork suggested that some areas may have been drier than normal. For example, some flushes and areas of moss-dominated habitat showed clear signs of desiccation, particularly in June. It is not clear what impacts this may have had on feeding sites and/or territory occupancy, but in general the climate has warmed since the 1980s, which may explain why Ring Ouzels are faring better in the higher (cooler and wetter?) northern parts of the study area (Beale *et al.* 2006). In Scotland, Ring Ouzel breeding distribution in two study areas has contracted to sites at high altitudes, although the precise causes remain unclear (Sim *et al.* 2010).

Recreational use of the area (by hikers, dog walkers, cyclists, etc.) has probably increased markedly since the 1980s, especially along Hebden Beck. This may have increased disturbance, although the topography of the southern section of the study area means that most people remain concentrated along a few linear routes along the stream in Hebden Gill. Many bird species still breed successfully in this area (pers. obs.), and most of the Ring Ouzels monitored by Appleyard nested well away from the paths and seem unlikely to have been impacted. Gamekeeping activities (focused on the grouse moors in the north) mean that predator levels are likely lower there than in the southern valley, but a range of avian and mammalian predators capable of predating Ring Ouzels were seen throughout the area (pers. obs.).

Despite the challenges of explaining the observed changes, a population of breeding Ring Ouzels remains on Grassington Moor. Given the Appleyard archive, two subsequent surveys, good accessibility to most areas and the interest and support of gamekeepers, an excellent opportunity exists to study this population in greater depth and contribute to local and national conservation.

ACKNOWLEDGEMENTS

Many thanks to the landowners who granted access permission for this survey. We would particularly like to thank George Hare for kindly allowing vehicular access to the moor that saved a considerable amount of time; and to him and his team of gamekeepers for their support for the project, their local knowledge and valuable information about the occupancy of certain territories. We would also like to thank Claire Hodgson, Keira Booth and Claire Braeburn at the Foundation for Common Land who provided logistical support. At the YDNPA, Robyn Guppy provided and assisted with the production of the maps and Phil Richards provided valuable support in liaising with local landowners within the study area. Rhian Jones arranged flexible accommodation at Grassington Bunk Barn. Simon Wotton (RSPB) kindly loaned the playback equipment. The delivery of this project would not have been possible without the travel, subsistence and accommodation costs that were covered by the Foundation for Common Land project.

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