


Protecting Ring Ouzels on the Eastern Edges

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Report to:
British Mountaineering Council

Contents

Summary

- 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.

- The Eastern Edges Ring Ouzel population is characterised by its close association with areas also frequented by people, often pursuing recreational outdoor activities such as walking and climbing.

- Disturbance to breeding Ring Ouzels principally occurs through birds being unwilling to return to their nest while people are present in the immediate vicinity. This potentially leads to either the abandonment of eggs or starvation of young in the nest.

- Access restrictions are currently used to protect vulnerable nests, using on-site signs. This work has principally been led by Bill Gordon, the Stanage PDNPA Ranger, working in collaboration with BMC Access reps.

- Access restrictions are considered on a case-by-case basis each season, and a variety of factors must be taken into account in the use of signs at nest sites.

- In 2016, surveys showed that the Ring Ouzel population of the Eastern Edges was 31 – 37 breeding pairs, and is stable/increasing over the last 15 years.

- Data from the 2016 survey work indicates that signing nest locations has a positive effect in reducing disturbance on breeding Ring Ouzels.

- The joint work of the BMC, Peak District National Park Authority, Eastern Moors Partnership and many volunteers is an example of a successful collaboration between recreation and conservation interests.

- Continuing this work is likely to require additional resources in the future, and the BMC can contribute in a significant way.

- BMC members and volunteers could provide valuable survey data during the breeding season to help locate and monitor Ring Ouzel nests.

- Raising awareness of the Ring Ouzel, the nest protection work and the BMC's role will help the birds themselves, while also showing how climbers and walkers can contribute to conservation work.

1 Introduction

This report was commissioned by the British Mountaineering Council (BMC) to look at the current use of access restrictions during the Ring Ouzel breeding season in the Peak District (specifically the Eastern Edges). This report has been written by Kim Leyland, a freelance ecologist (and climber) who has been working on a Ring Ouzel study for the Eastern Moors Partnership in 2016.

The Ring Ouzel *Turdus torquatus* is a migrant summer visitor to the UK and is an upland specialist species. Its preferred habitat is typically rocky moorland, where it tends to breed on crags or steep gullies.

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 (Birds of Conservation Concern 4, Eaton et al, 2015). The Eastern Edges population (extending northwards to the Dark Peak Moors) is its last stronghold in the Peak District.

2 Aims

This report aims to cover the following areas:

- Set out some background information on the Eastern Edges Ring Ouzel population and interactions with walkers, climbers and other visitors to the area.
- Detail the current process of Ring Ouzel nest monitoring and protection measures carried out on the Eastern Edges.
- Provide an assessment of the effectiveness of nest protection measures, principally based on data obtained during the 2016 breeding season.
- Discuss the different measures used, together with potential benefits and possible problems.
- Provide recommendations for future use of nest protection measures, and how walkers, climbers and other visitors can continue to help protect the Ring Ouzel population.

3 Ring Ouzels and Disturbance

3.1 Ring Ouzels on the Eastern Edges

Ring Ouzels nest in a variety of locations including on crags, boulders or on the ground. They may nest in (often vegetated) cracks or breaks in the rock, in a natural cleft beneath a boulder, on the ground in bracken beds or on the side of a stream gully.

They arrive in the Peak District, from their wintering grounds in North Africa, in late March to early April and begin to set up territories. They usually lay four eggs in a nest cup, with the female incubating the eggs for around two weeks. Once hatched the chicks are fed by both parents, and usually fledge within another two weeks.

It is possible for a pair to have two broods in a season (and three broods has been known) and thus the breeding season may extend into August. Second broods may commence immediately after the first brood has fledged, usually at a different nest site within the same territory.

The Eastern Edges Ring Ouzel population is characterised by its close association with areas also frequented by people, often pursuing recreational outdoor activities such as walking and climbing. This has led to significant concerns about disturbance and, consequently, informal arrangements to alert visitors to the presence of Ring Ouzel nests so they can avoid them. This has largely been

undertaken by Bill Gordon of the Stanage-North Lees Estate (Peak District National Park Authority), and volunteers from the BMC.

3.2 Disturbance

The variety of nesting places used by Ring Ouzels, and the variety of activities undertaken around the areas they breed, means disturbance may occur in a number of ways. A full assessment of the effects of different activities on Ring Ouzels was undertaken in 2012 as part of an RSPB sabbatical project (Bingham, D., 2012)

This qualitative assessment considered that the majority of human recreational activity (perhaps expectedly) had perceived negative impacts on Ring Ouzels, to a greater or lesser extent. The "traditional" and "well controlled" nature of rock climbing was considered to lessen its impact – presumably a reflection of the largely predictable movements of climbers (based on route location) and the ongoing nest signing work/collaboration with the BMC. The transient nature of hill walkers also gave them a lower impact score. Increased impacts were perceived from bouldering ("unregulated"), visitors to honeypot areas and people with dogs off leads.

In reality there is a large cross over between (route) climbers, boulderers, walkers, visitors and dog owners – and indeed any other group of people loosely defined by the activity they are undertaking.

Disturbance to breeding Ring Ouzels principally occurs through birds being unwilling to return to their nest while people are present in the immediate vicinity. This potentially leads to either the abandonment of eggs or starvation of young in the nest.

If the adult birds are off the nest this may also leave it more vulnerable to e.g. Corvid predation, although there may be other more complex interactions between people and predators – see also Case Study 2, Section 7.2.

Climbing (whether routes or bouldering) leads to people being present for significant periods of time compared to passing walkers, however people gathering for other reasons (a popular viewpoint, picnic spot, etc.) can equally lead to similar levels of disturbance. Thus nests away from climbing routes, but vulnerable to other visitors, may also benefit from similar protection.

Ground-nesting ouzels, and newly fledged young in bracken beds, may be particularly at risk from dogs off leads (and to a lesser extent trampling), however there are already widespread actions in place to tackle this issue and thus it is not considered any further in this report. All climbers, walkers and other visitors to the area should be reminded that dogs should be kept on a short lead during the bird breeding season.

3.3 Ring Ouzel Surveys

In 2002 Sheffield Bird Study Group (SBSG) carried out a survey, principally of Stanage, but also including Bamford and parts of the Burbage Moors. This survey recorded 18 breeding pairs of Ring Ouzel. The same area (as discussed below) surveyed in 2016 held 26 breeding pairs.

In 2016 the Eastern Moors Partnership (EMP) commissioned a Ring Ouzel study, comprising a breeding survey of the wider Eastern Edges area and a nest finding and monitoring study of the Burbage Valley area. These were both contracted to Kim Leyland (the author of this report) - the survey in conjunction with Stanage-North Lees, EMP and SBSG volunteers.

The breeding survey took place across the Eastern Edges (roughly from Bamford to Birchen), and intensive nest finding and monitoring work was carried out at Bamford, Stanage, Burbage Valley and the Eastern Moors.

Six visits were made to each area to be surveyed, at two-weekly intervals, through the course of the breeding season. Transect lines were walked, spaced approximately 200m apart, and all Ring Ouzel breeding activity was recorded on paper maps using standard BTO survey notation. At the end of the season, maps were combined to produce a territory map based on clusters of activity.

The Eastern Edges survey recorded 30 – 37 breeding pairs of Ring Ouzel, with the majority being found on Bamford Edge, Stanage Edge and the Burbage Valley edges. This is detailed in the report *Eastern Edges Ring Ouzel Survey 2016* (EMP).

Nest finding in 2016 was carried out by Bill and Flo Gordon on Bamford and Stanage and by Kim Leyland on Burbage. Any nests thought to be at significant risk of disturbance by visitors (predominantly climbers and walkers) were signed, and nests were monitored in order to determine the outcome (successfully fledged young, or failure due to disturbance or predation). The work on Burbage was written up as the *Burbage Moors Ring Ouzel Study 2016* (EMP).

4 Nest Monitoring & Protection

4.1 Current Situation

Access restrictions are currently determined on a nest-by-nest basis, as and when Ring Ouzels begin setting up territories and building nests each spring. A "precautionary" approach has been tried in the past, however although there are some traditional often-used nest sites (more realistically areas), it is not possible to predict with any reliability the specific locations where birds will nest.

Bill Gordon has been monitoring Ring Ouzels for many years while working as the Stanage-North Lees Ranger, and has taken the lead role in identifying nest locations and assessing whether restrictions are needed. This work has therefore been predominantly focussed on Stanage Edge, and occasionally on Bamford Edge and in the Burbage Valley.

The current situation has been heavily reliant on the highly skilled and time-consuming monitoring work carried out by Bill & Flo Gordon at Stanage. This is largely carried out in their own time, but inextricably linked to living and working at Stanage-North Lees. With retirement approaching for both of them, there is no guarantee they will be able to continue this monitoring work to the same extent in the future.

The BMC is a key partner in the process, with consultation undertaken with local access reps (principally Henry Folkard and Adam Long) regarding nest locations and signs. Climbers and walkers are also encouraged to report Ring Ouzel sightings, which can also contribute to the discovery of nest locations. Updates to BMC members, and the general public, are given at local area meetings and via online media – keeping people informed is a key part of the process.

4.2 Eastern Moors Partnership

The Eastern Moors Partnership are in the process of taking over the management of the Burbage Valley and surrounding area, including Millstone Edge and Houndkirk Moor, from Sheffield City Council. In 2016 the nest monitoring work was extended across this area, meaning that Bamford (Flo), Stanage (Bill) and Burbage/Houndkirk/Millstone (Kim) all received a high level of survey.

This level of monitoring meant that an unprecedented number of nests were located, monitored and signed, which (as will be seen below) undoubtedly contributed in part to a successful breeding season. It also indicated that the breeding population of Ring Ouzel on the Eastern Edges has increased over the last two decades. Even allowing for the small number of data points, and any

other caveats, there is no evidence to suggest the population is decreasing despite the high level of recreational use compared to many other Ring Ouzel populations.

4.3 Access Restrictions

The majority of access restrictions in the past have related to climbing routes. Where a pair are nesting on a section of crag frequented by climbers, signs are placed at the base of the crag asking climbers to avoid "all climbs between Route X and Route Y". The restriction remains in place until the young have successfully fledged (left the nest) or shortly after (around 4 weeks). Sometimes signs are also placed at common access points (e.g. Hook's Car parking area at Stanage).

With Stanage, notification is often given on the UKClimbing forums, and more recently on Twitter, though the general guidance is always to look for on-site signs as they frequently appear and disappear as birds arrive or nests fledge/fail. The BMC Regional Access Database (RAD) is updated with a general notice to this effect.

In 2016, where nest locations were in less popular routes or areas, but still considered requiring signs (as was the case on Burbage and Millstone), locations were not generally published (to avoid drawing unwanted attention to nest sites) but the same advice was given to look for on-site signs. On one occasion where a significant number of routes at Millstone were restricted, this was published on the BMC RAD as it was considered that this was unusual for this location and some advance warning for climbers was appropriate.

4.4 Risks of Signing Nests

One potential negative effect of signing nests is drawing attention to a nest which may otherwise have gone unnoticed. Birdwatchers and wildlife photographers, for example, or curious others, may be alerted to the presence of a nest and be tempted to investigate or stake out an area, leading to precisely the kind of disturbance the signs are designed to avoid. This is taken into consideration when making the decision on whether to sign a nest.

5 Effectiveness of Access Restrictions

5.1 Background

As a part of reviewing the current access situation an attempt has been made to quantify the effectiveness of restrictions, though this comes with some fairly large caveats.

Time spent in the field becoming familiar with each pair of birds, their territory and their nest locations (for multiple brood attempts) has indicated that there is significant variation in the sensitivity of individual birds to disturbance. There is also a significant variation in nest location choice, both within and between territories, with consequent varying potential to be disturbed (often related to amount of cover present).

Essentially the tendency of an individual bird to be susceptible to disturbance, and the precise location of the nest, may be the main factors in determining the nest outcome. The first of these factors is generally entirely unknown in advance, the second is hard to predict and the two together are likely to be interdependent.

5.2 Analysis of 2016 Results

The above discussion does not preclude drawing some conclusions on the effectiveness of restrictions, but rather limits the confidence in the quantifiable aspect of the analysis.

No experimental set-up was designed into the 2016 monitoring, however some (generally early) nests were not signed (predominantly due to being away from climbing routes, though still close to footpaths) when, with hindsight, this would have potentially been beneficial. This means we are able to look at three different categories of nest as follows:

- Signed – where signs were used to warn visitors of a nest (due to considered high risk of disturbance).
- Unsigned (low risk) – where signs were not used as the chance of disturbance was considered to be low.
- Unsigned (high risk) – where signs were not used even though the chance of disturbance was high (see also Section 6.3).

The resulting success and disturbance rates of the nests are summarised in Table 1. A full breakdown of all the nest outcomes is given in Appendix 1.

Table 1. Nest outcomes for signed and unsigned nests

	Number	Success	Fail (All)	Fail (Disturbed)	% success	% of failures due to disturbance
Signed	18	13	5	2	72	40
Unsigned	26	14	12	6	54	50
(High risk)	9	2	7	5	22	71
(Low risk)	17	12	5	1	71	20

- The success rate of signed nests is similar to unsigned (low risk) nests. This indicates that signing is not having a negative effect on nest success (e.g. by attracting unwanted attention).
- The disturbance rate of signed nests is still twice as high as unsigned (low risk) nests. The absolute numbers are very low in each case, but this indicates signing is not 100% effective (perhaps unsurprisingly).
- Signed nests are more likely to succeed than unsigned (high risk) nests, and disturbance rates are reduced. This is, of course, the primary aim of the signing, and thus is supported by the available data.

We can of course never be sure that a given signed nest wouldn't have succeeded without the signs, nor that a particular failed nest would have succeeded with signs. The non-experimental nature of the data, the subjective nature of judging where signs are necessary and which nests are at risk of disturbance, and even our ability to attribute failures to disturbance, should all be borne in mind when considering the data.

5.3 Raising Awareness

A less quantifiable benefit to the signing of nests is the simple process of raising awareness of Ring Ouzels. Though a characterful and often striking bird (in this author's opinion), the ouzels are only present on their breeding grounds for six months of the year, and for much of that time are largely hidden from view. Once territories are established and the summer vegetation is up, the birds are, for the most part, quite inconspicuous. Even the song, distinctive and obvious to those who know, is easily missed by the untrained ear.

This leads to situations where many visitors are entirely unaware of the presence (and even existence) of Ring Ouzels, even though they may be within a few metres of an active nest. The act of

signing nests thus plays a key part in raising awareness, not only of the sensitive nature of nest locations, but also of the species as a whole.

With a familiar visual point of reference ("a blackbird with a white collar") and easily described song and alarm call, it is an easy bird for the casual observer to identify and recollect – and thus a great candidate for a bird every visitor to the Eastern Edges should be familiar with.

6 Signing of Nests

6.1 Overview

As discussed earlier in Section 4.3, signs have typically asked climbers to avoid certain routes, and all visitors to avoid a particular area. With the volume of nests monitored in 2016, it has been possible to draw some further conclusions about the use of signs, as discussed below.

Some important general considerations are the visual impact of the signs in the landscape (should be minimised as much as possible), design and language (should inform and help people simply) and, above all perhaps, convey a positive message.

6.2 2016 Observations

Some examples of typical signs used in 2016 are presented in Appendix 2. Over the course of the season it became apparent that there were some unintended consequences of the use of particular signs.

Signs which request "Please do not go beyond this sign" can lead to instances where a group of people (correctly obeying the sign) then form a gathering at the sign, which may be around the limit of the tolerance of a nesting bird.

Signs restricting climbing on a particular set of routes (often in conjunction with signs such as the above) can again lead to groups of people gathering at the limits of the signed area, which on a busy day can still lead to potentially significant levels of disturbance.

Some alternatives were used later in the season which (subject to all the caveats discussed in earlier sections) appeared to be successful, and may be more appropriate in some situations. Asking people to move quickly and quietly through an area (rather than stopping them at a fixed point) for example, helps to reduce the effect of crowding at signs.

6.3 Positioning and Footpaths

Positioning of signs is relevant to the way the area in question is used. The likely direction of approach to the nest area, gathering points and the wider view of an area are all important. Ideally signs are located so they can only be seen by the people for whom they are intended, with the minimum number needed to achieve the desired effect used.

While traffic along footpaths may cause little actual disturbance to the birds, at intersections and lookouts this may become an issue. This was apparent in the 2016 season where a number of nests near footpaths, which weren't originally considered to be at risk, failed, likely due to disturbance. In hindsight, and following observations later in the season, a number of these were located near popular stopping points where people often gathered – where a simple sign may have been effective.

Case Study 1. Burbage Oaks This pair chose a nest site high up on the crag, in a corner adjacent to a buttress with climbing routes, and with a climbers' descent on the other side.
Risks While there were around half a dozen routes on the buttress adjacent to the nest site, it was considered that disturbance was only significantly likely from one route immediately facing the nest (the rest being out of view). On two visits during the incubation period it became apparent that the female was easily disturbed off the nest by activity on top of the crag (i.e. looking over and down to the nest which was fairly exposed from above).
Restriction A sign at the base of the crag asked climbers to avoid one route entirely, to minimise noise while climbing on the rest and not to use the adjacent descent route. In addition, at the top of the crag additional signs were placed (intended for all footpath users) asking them not to approach the crag edge or use the descent route.
Outcome The nest was successful with four young fledged.
Discussion In this situation climbing was able to continue relatively close to the nest site without unduly affecting the birds. Signs at the base were only visible to climbers using that buttress – and the most likely "base camp" area for the unrestricted routes was also out of sight of the nest. The signs at the top of the crag were much more visible – to anyone using the footpath – something which would usually try to be avoided. However in this case, due to the specific sensitivity of this individual bird, this was considered appropriate. This also took into account the fact that two nests in similar situations (in areas where footpath users are likely to approach, and stop at, the crag edge) had failed earlier in the season.

7 Other Considerations

7.1 Predation

Predation generally accounts for the remaining nest failures (around half) not due to disturbance, though these are not evenly distributed across the area. The majority of predation events were recorded in the Burbage area, with fewer on Stanage and one on Bamford. Bamford is part of the Moscar Estate, where predator control is undertaken.

At Stanage, a Merlin was seen to take a female Ring Ouzel from the nest, and a stoat was seen near a recently predated nest. At Millstone, a nest was considered likely to have been predated by Jackdaws (see Case Study 2, below). Across the area corvids, mustelids and foxes are the most likely predators of Ring Ouzel eggs or chicks.

7.2 Foraging Habitat

Ring Ouzels feed predominantly on invertebrates, principally earthworms, during the spring and early summer, and then increasingly in the late summer and autumn on bilberries. Their habitat requirements therefore include areas of both short grass, ideal for invertebrate foraging, and Bilberry *Vaccinium myrtillus*.

Short grass areas are predominantly associated with sheep grazing, with sheep present across the Stanage and Burbage areas (albeit at reduced densities from historic stocking rates). During 2016, observations in the Burbage Valley suggested that Ring Ouzels most frequently forage on the many footpaths and tracks running above and beneath the crags.

Ring Ouzels are known to fly considerable distances from the nest site, for example to pasture areas, in order to forage, however observations suggest that when females are incubating they prefer to move only a short distance during their brief feeding breaks.

On the Eastern Moors, sheep have been removed from many areas, including White Edge and Curbar, which have held Ring Ouzel territories in recent years. In these areas short grass areas appear to be maintained by footpath use.

Thus it may be that the network of, and use of, footpaths across the Eastern Edges is a key part of the habitat mosaic which makes the area so suitable for Ring Ouzels.

Case Study 2. Millstone Two broods, from what was presumed the same pair of birds. Both nests were in largely vegetated and likely untraveled climbing routes, but were adjacent to other more popular routes, though generally quiet areas of the crag. They were both high up, around the middle of the crag.
Risks The primary risk appeared to be disturbance from climbers on adjacent routes. The first nest was on an isolated buttress in a small bay with around ten routes. The second nest was in the corner of a larger bay, and it was less clear how many routes would be likely to disturb the birds.
Restrictions Nest 1 – signs were placed at the base of the crag asking climbers to avoid routes either side of the nest – this effectively restricted access to the entire buttress. Consequently it is likely the entire small bay was unused during this time. Nest 2 – signs below the nest asked climbers to avoid some routes either side of the nest (a less extensive restriction than Nest 1). Additional signs asked climbers within the rest of the bay to climb quietly and then leave quickly.
Outcome Nest 1 failed at the chick stage, predated, possibly by Jackdaws. Nest 2 successfully fledged 3 chicks.
Discussion It is possible that the nature of the restriction at Nest 1 actually left the area of the nest quieter and thus more prone to use by Jackdaws (which were noted during fieldwork to be generally wary of people at the crag), which may have led to a greater likelihood of it being predated. The bay where Nest 2 was located was used by climbers during both incubation and feeding stages, and appeared to have no detrimental effect on the nest – the extent to which this was directly influenced by the signs can only be speculated of course.

8 Recommendations

The continued existence (and even increase) of the Ring Ouzel population in this heavily visited area is testament both to the adaptability of the birds themselves, and to the collaboration between conservation and recreation interests. Looking to the future, there are areas where the BMC may be able to help engage its members and other outdoor users, in order to both raise awareness of the work it is doing and enable this work to continue in the future in order to benefit both the birds and people who share their home.

8.1 Survey and Monitoring

BMC volunteers are an important part of the current process of nest protection. With potential changes in personnel at Stanage-North Lees, there is likely to be scope for additional opportunities for volunteers to get involved in this work. Climbers in particular can often provide very accurate location information for Ring Ouzel activity in the breeding season (by reference to specific routes or

boulder problems), which is essential for vulnerable nests to be located both quickly and early in the season.

Climbers and walkers could be engaged to provide much of the information needed in the early part of the breeding season, when birds are establishing territories and prospecting for nest sites - indeed some people already do. However the difference between reporting “a Ring Ouzel at Plantation” versus “a female Ring Ouzel alarm calling at Wall End Slab” is highly significant – recruiting interested members to proactively contribute to this survey work could provide real benefits early in the season. It is possible this could be undertaken in conjunction with the Moors for the Future Partnership Ring Ouzel sightings “citizen science” survey, which has a dedicated webpage and app for recording sightings.

8.2 Nest Recording

The British Trust for Ornithology (BTO) run a nest record scheme, which is a nationwide monitoring program collecting data on the nest outcomes of all bird species. This provides valuable data on success and failure rates of breeding birds. For a species such as the Ring Ouzel (especially where climbing skills may even be required to monitor an individual nest) there may be BMC members (or potential members) who already undertake such work who may be willing to contribute to this effort.

This is especially important in considering the ongoing nest protection work, allowing signs to be removed promptly once a nest has fledged or determining that a nest has failed and the birds may move to a new location. Accurate information means that access is only restricted for the shortest amount of time necessary, and in the specific location required.

8.3 Access Restrictions

The BMC, through volunteers, currently provide advice on access restrictions where necessary – for example through knowledge of which routes or boulder problems are likely to need signs (e.g. due to popularity) – and providing updates through the RAD where appropriate. The restrictions, once in place, are largely self-policed and appear in general to be well known (and respected) by walkers and climbers.

The placement of signs is always likely to need a collaboration between someone with knowledge of Ring Ouzel behaviour and someone aware of the habits of climbers/walkers/visitors who use the specific area. While the actual placement of signs is currently undertaken by the relevant land managers (e.g. Bill at Stanage, EMP on Burbage), it may be that BMC representatives are more involved in the future. Thus some general guidelines are set out below, with the proviso that all nests will need to be assessed on a case-by-case basis.

The first consideration is whether a sign (or signs) is necessary at all. As signs may attract unwanted attention to a nest, they should only be used where a significant risk of disturbance is considered likely.

- For nests in climbing routes, the route concerned will need a restriction to allow the birds to visit the nest undisturbed. The topography of the crag and distance to neighbouring routes will determine how many additional routes will need to be restricted.
- The movement of climbers above and below routes needs to be considered, and any descent routes included in the restriction signed appropriately.
- Line of sight appears to be an important consideration – birds appear to be more tolerant of people close by if they are out of direct sight of the nest.

- Where possible signs should direct people past or through an area, rather than stopping them at a particular point (thus encouraging people to move away from a nest area rather than gathering at a “no entry” sign).
- Attention should be paid to likely “basecamp” spots at the base of crags, which may attract larger numbers of people and noise for extended periods.
- Where nests are close to busy footpaths, this may present a problem if they are near a natural stopping or gathering point (e.g. lookout, picnic spot, etc.). A simple sign asking people not to stop in the area may have a significant benefit.

8.4 Raising Awareness

In the course of preparing this report, speaking to people from the Peak District National Park Authority, Eastern Moors Partnership, RSPB and National Trust, as well as the BMC, the overall feeling is that this partnership between conservation and recreation interests is a real success story, especially given the results of this season’s survey work.

Promotion of this story to both members and potential members of the BMC will not only aid in raising awareness of the plight of the Ring Ouzel, but will also help generate interest from potential volunteers and act as an example of how the organisation can help in conservation, while also protecting the interests of the people it represents.

Appendix 1

2016 Nest Outcome Tables

Bamford

Nest	Signs	Risk	Nest Outcome	Notes
BQ1	-	Visitors	Abandoned	At building stage. Disturbance?
BQ2	-	Visitors	Successful	
BR1	-	-	Successful	
BR2	-	-	Successful	
BI1	-	-	Successful	
GB1	-	-	Predated	Chick stage (dead chick found out of nest – nest not found).
GT1	-	-	Successful	
ES1	-	-	Successful	
JC1	-	-	Successful	

Stanage

Nest	Signs	Risk	Nest Outcome	Notes
SE1	-	-	Unknown	Nest not located.
BR1	Y	Boulder problem	Successful	
BR2	Y	Climbers/walkers	Successful	
CC1	-		Successful	
CC2	Y	Footpath	Successful	
HN1	Y	Climbing routes	Predated	At chick stage. On ground, likely predated by stoat.
LC1	-	Footpath	Abandoned	At egg stage. Likely disturbed by walkers.
LC2	Y	Footpath	Successful	On ground.
RV1	-		Successful	
WS1	Y	Climbing routes	Successful	
WS2	Y	Climbing routes	Successful	
TC1	Y	Climbers' descent path	Successful	Descent route.
TC2	Y	Climbing routes	Successful	In "Green Crack".
SC1	Y	Climbing routes	Abandoned	At egg stage. Likely disturbance by climbers.
CS1	-	Boulder problem	Abandoned	At building stage, likely disturbance by climbers.
CS2	Y	Boulder problem	Abandoned	At egg stage, likely disturbance by climbers.
CS3	Y	Climbers	Predated	Merlin took female.

Burbage

Nest	Signs	Risk	Nest Outcome	Notes
BW1	-	Near river	Abandoned	Possible disturbance. River access by groups?
BW2	-	Footpath	Predated	Very close to footpath.
BN1	-	Footpath	Abandoned	Likely disturbance (+ cold weather?).
BN2	-	Climbers' path	Predated?	Nest found empty.
BN3	-	Climbers' path	Successful	Found late. Likely signed if found earlier.
BO1	Y	Climbers' path & routes	Successful	One route & descent restricted. Also signs at top to keep away from edge.
BO2	-	-	Predated	
BG1	-	-	Successful	
BG2	-	-	Predated	
BS	Y	Climbing routes	Successful	Nest site successful in past without signs.
BQ1	-	Footpath	Abandoned?	Nest not located (at top of quarry wall). Lookout & minor path ran very close.
BQ2	-	-	Successful?	Not located. Ads seen with food.
HK	-	-	Successful	
MS1	Y	Climbing routes	Predated	Adjacent routes restricted.
MS2	Y	Climbing routes	Successful	Adjacent routes restricted.
CW	-	-	Predated	
HM	-	Footpath	Successful	Close to minor path but in bracken – not "stopping" area.
HE1	Y	Group activity	Successful	Heavy use. Many signs to clear zone around nest (on ground at path junction).
HE2	Y	Group activity	Successful	Heavy use. Only found at chick stage. On crag.

Appendix 2

Examples of Access Restriction Signs from 2016

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<td>Sign from a mostly bouldering area.</td>
<td>Typical sign restricting routes.</td>
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<td>Sign used for a nest exposed to the crag edge above.</td>
<td>Sign used around an area for a ground nesting pair.</td>
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<tr>
<td>A sign used in the area below a restricted route.</td>
<td>Sign used later in the season for routes adjacent to closed routes.</td>
</tr>
</table>