A study of human activities taking place on and around the Derbyshire gritstone edges and their impact on the local population of breeding ring ouzels.

Photo by Ray Manley (Peak District National Park)

Sabbatical project by David Bingham RSPB

5 April – 5 May 2012

Introduction

Ring ouzels are red listed in the UK as birds of conservation concern due to a rapid decline in their population and range. The gritstone edges of the Derbyshire Peak District National Park are an excellent breeding territory for ring ouzels combining safe nest sites and an abundance of food. The preferred nest sites are within clumps of low growing vegetation in fissures and cracks on the edges themselves. These nest sites offer maximum protection from avian and mammalian predators. The prime feeding areas are in patches of short grazed turf close to the edge and in fields a short distance away. Worms are the main food source during the breeding season and later in the year there is an abundance of berries, particularly bilberry and rowan.

The gritstone edges attract hundreds of thousands of visitors each year, ranging from casual sightseers to active adventure sports enthusiasts. The area also supports traditional upland land use, particularly livestock farming, forestry and grouse shooting. Historically, quarrying for gritstone, mining for lead and water powered industrial processing also took place on and around the edges. The sabbatical was based in the 1200 acre North Lees Estate, which is owned by the Peak District National Park. The national park is primarily concerned with access, landscape, recreation and conservation and to achieve these aims traditional farming practices are undertaken. The land ownership surrounding North Lees Estate is a mix of grouse moors managed for shooting, Sheffield CC land managed for access and small livestock farms.

The project included a survey of breeding ring ouzels and a review of the activities taking place in the area with an attempt at an assessment of the effect of the activities on the ring ouzel population both positive and negative. The sabbatical would not have been possible without the generous help and support of Bill and Flo Gordon. Their extensive knowledge of the local ring ouzels and of the history and current land use of the area was invaluable in locating the ring ouzels and assessing the challenges and opportunities posed by the activities taking place on and around the gritstone edges.

Timings and weather

The sabbatical was undertaken between the 5 April 2012 and 5 May 2012. This coincided with the return of ring ouzels from North Africa and their first breeding attempt (they usually have two and sometimes three broods in the season). The weather was unusually cold and wet, which made finding worms easy for the ring ouzels and reduced the number of visitors to the area so was probably a benefit to the birds.

Ring Ouzel Observations

The first few days of the sabbatical were spent being shown around the area by BG visiting know ring ouzel breeding areas and learning about their ecology and breeding habits. An understanding of the meaning of the various songs and calls was a key part of this induction. A map was annotated with expected and potential nesting sites and they were given code letters. TABLE 1 lists the sites and code letters used in this report.

TABLE 1 Potential ring ouzel nesting sites visited during the project.	
South of Burbage Bridge	
Burbage South Quarry	BSQ
Burbage South	BS
Houndkirk Road	HR
Houndkirk Hill	HH
Burbage Oaks	BO
Upper Burbage Bridge	UBB
Higger Tor	HT
Carl Walk	CW
Winyards Nick	WN
Millstne Edge	ME
Callow Bank	CB
Stannage Edge	
Cowper Stone	CS
Trig Point	TP
Stanage Popular End 1,2	SPE 1,2 (numbered N to S)
Plantation	P
Plantation Count's	PC
Long Causeway	LC
Rowan Tree (beyond flat millstone)	RT
High Neb	HN
Crow Chin	CC
Stanage End 1,2	SE 1,2 (numbered N to S)

West of Stannage Edge	
Jarvis Clough	JC
Bamford Quarry	BQ
Bamford Edge 1,2,3,4	BE 1,2,3,4 (numbered S to N)
Carhead Rocks	CR
Eastern Moors	
White Edge	WE
Curbar Edge	CE

The ring ouzel calls were differentiated as shown in TABLE 2.

TABLE 2 Ring ouzel song types	
Standard 3 or 4 note call (all is well)	S
Standard song with warble (impressing mate)	SW
Alarm call (chacking male and either chacking or seep-seep call of female, latter used when not wanting to give away location)	AC
Not singing or calling	NS
Strident song (Male trying to call in a female)	SS

Recorded sightings are shown in TABLE 3.

TABLE 3 Sighting records					
Date	**Location**	**Time**	**Weather**	**Birds**	**Notes**
8/4/12	BQ	0730 start	Mist, low cloud, drizzle, clearing late morning	♂ ♀ NS	♀ Flew into low vegetation next to access track into quarry
8/4/12	BE1			♂ ♀ NS	
8/4/12	BE2			♂ ♀ NS	
8/4/12	BE3			♂	Disturbed by my presence

				S/AC	
8/4/12	UBB,CW,HT	1430 start	Light rain, mist	No RZs	Heavy disturbance (36 vehicles in 2 CPs)
9/4/12	SPE1,2, TP,PR,PC	1300 start	Heavy wind and rain	No RZs	Moderate disturbance. Walkers, 2 climbers, children weaselling.
10/4/12	SE1	0630 start	Fair	♂ ♀ NS	Remote sight no disturbance
10/4/12	CC			♂ ♀ AC	Disturbed by my presence
10/4/12	JC	1600 start		♀ NS	Perched in old rowan tree
15/4/12	BQ	0945 start	Sun, strong wind	♂ NS	CPs full and birds flighty
15/4/12	BE1			♂ S	
16/4/12	Parson House Outdoor Pursuit Centre	0600 start	Cold, bright	♂ S	Singing from tree in grounds, flew towards BSQ
16/4/12	BS			♂ ♀ NS	
16/4/12	HH			♂ S	
17/4/12	SPE1	1900 start	Heavy showers	♂ ♀ NS	Pair under Robin Hood's Buttress (location identified by climbers) flew

					towards plantation.
19/4/12	CE			♂ S	Reported by RSPB warden during site visit to Eastern Moors
20/4/12	P	0700 start	Fair	♂ ♀ SW	♀ Nest building until 0900 ♂ Keeping watch and singing (landed in larch tree, very close views).
21/4/12	BE1	0800 start	Fair	♀	No RZs at BQ
23/4/12	P	0730 start	Fair	♂ S	Near nest site
24/4/12	WE	0900 start	Fair	♂ ♀ AC	Edge walked to 'Pepper Pot'. Pair seen near wall at start of edge on return at 11:30. AC ♀
25/4/12	CW	0700 start	Wet morning	No RZs	
26/4/12	BS	0800 start	Showery	♂ AC	Wing flicking and showing agitation
27/4/12	P	0830 start	Fair	♂ S	Nest located 3 eggs
27/4/12	SPE, TP			♂ 2 ♀ 2 NS	2 pairs in area signed to restrict access and designated RZ sanctuary
27/4/12	UBB				Nest located with one egg
27/4/12	BO			♂ 3	6 RZs seen to W of track.

				♀ 3 NS	
1/5/12	P	0800 start	Cold, misty, drizzle	♂ S	Probably same bird singing at Hollins Bank CP on return to car.
1/5/12	BO			♂ SW ♂ NS	The silent bird was feeding in mossy crevices of oak trees
1/5/12	SPE	1400 start	Fair	♂ ♀ NS	Pair S of Robin Hood's Buttress. Climbers in area.
2/5/12	CR	1200 start	Mist clearing	♂ ♀ NS	Probably nesting in bracken. Pair chased off cuckoo. BG spotted RZ flying into Green Crack from CR
2/5/12	CB	1400 start		♂ S ♀ AC	AC given when bird disturbed from bracken
2/5/12	UBB	Evening		♀ NS	Adam Long confirmed nest with 3 eggs. Parent bird flushed.
2/5/12	SPE			♀ NS	AL climbed to Green Crack and confirmed nest with 4 eggs. Parent bird flushed and returned in 5 mins.
2/5/12	LC			♂ 2	Birds disputing territory. One

					heard using SS to call in a mate.
3/5/12	SPE, TP	0900 start	Cold, misty, clearing later	♂ ♀ NS	
4/5/12	BS	0800 start	Fair	♂ S	
4/5/12	CB	Afternoon		♂ S	At same location as AC on 2/5.
4/5/12	BE1,2			♂ 2 ♀ 2 NS	2 pairs
4/5/12	BE4			♂ NS	Taking grubs into a nest to feed mate.

Disturbance

Ring ouzels are not protected under schedule 1 but gain legal protection through the Countryside and Rights of Way Act (CRoW) as it is an offence to recklessly disturb the special interest of a SSSI. The visitor numbers on the North Lees Estate are estimated to be in the region of 250, 000 per year. These visitors range from experienced climbers and walkers to casual day visitors and include some unwanted visits by individuals and groups who participate in anti-social activities. The most significant disturbance is believed to be caused by activities that keep participants in a specific location for a prolonged period of time. Rock climbing is likely to be particularly relevant because the gritstone edges are internationally recognised as a premier climbing destination with comprehensive guide books covering hundreds of routes. The estate is also within 10 miles of Sheffield and accessible to large urban populations. The methodology used to assess disturbance was to talk to climbers and hand out Steve Cale postcards showing ring ouzels to ascertain their understanding of the issue and willingness to take action. A semi quantitative analysis was also carried out by asking BG/FG to score the different activities in respect to their effect on ring ouzel breeding success.

The effect of disturbance on ring ouzel breeding success has been demonstrated by the fact that breeding success more than doubled during the foot and mouth access restrictions. Cold wet springs also coincide with good breeding success and this is

believed to be because visitor numbers are lower during the crucial early weeks of the season, particularly the Easter and spring bank holidays.

Result of F2F discussions with climbers

Discussions took place with climbers both local and from other parts of the UK and overseas. The overseas climbers were from Norway, Ireland and New Zealand. The climbers from other parts of the country had never heard of a ring ouzel but knew about peregrine falcons and the ones spoken to had checked the websites before setting off to ensure there were no restrictions in place. The overseas climbers were unfamiliar with ring ouzels. All those spoken to were interested and took the card with the ring ouzel illustrations. The New Zealanders came back to me later and said they had seen ring ouzels and identified them from the card and were very impressed by them. The local climbers were well aware of the issue with ring ouzels and assisted in putting out signs and checking nests. They were interested and pleased to have ring ouzels in the area and did not find the restrictions to be a problem because of the numerous alternative routes available.

Results of discussions with site staff

A scoring scheme was devised to allocate activities into perceived positive and negative categories as shown in TABLE 4.

TABLE 4 Activity scores										
Disadvantage ←					Neutral	Advantage →				
-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5

TABLE 5 defines the meaning of the symbols used to assign a category to the activities showing their current status.

TABLE 5 Current status of activity				
Increasing	Decreasing	Steady	Increased now steady	Decreased now steady
>	<	=	≥	≤

The results of discussions with site staff are summarised in TABLE 6. The figures were arrived at using many years of experience (29 years for BG) and matched the observations made during the sabbatical,

TABLE 6 Summary of perceived impacts of activities taking place on the gritstone edges in and around the North Lees Estate to breeding ring ouzels.			
Activity	Score	Status	Comment
Rock climbing	-1	=	A traditional and well controlled activity with a wide participant age range.
Bouldering (day)	-3	>	Uncontrolled and unregulated activity undertaken by mainly young participants. Climbing on large boulders with safety mats.
Bouldering (night)	-4	>	As above but greater disturbance because of lights.
Hill walking/fell running	-1	=	Generally low disturbance because participants do not linger for very long in one spot. Participants usually mature.
Walking with dog off lead particularly when running free such as (grouse munchers) spaniel types and throwing balls Labradors etc.	-5	>	Particularly a problem for bracken nesting birds.
Casual visitors to 'honeypot' sites such as Higger Tor, Carl Walk and Stanage Popular End	-4	=	Casual visitors to these sites typically arrive at the car parks and take short walks to view points. They may stay to enjoy the view, picnic or allow their children to play on the rocks. RZs typically attempt to nest but are disturbed and move to quieter areas.
Casual visitors to general area	0	=	Away from the 'honeypot' sites general visitors are not thought to be a problem.
Mountain bikers (day)	0/-1	>	Very short duration disturbance.
Mountain bikers (night)	-1/-2	>	As above but powerful modern lights cause

			additional disturbance.
Motorized off road vehicles (illegal use)	-4	>	Off road 4 wheel drive and scramble bikes cause disturbance because of noise and lights at night
Motorized off road vehicles (legal use)	-1	=	Slow day time use for legal purposes.
Geocaching	-4	>	Uncontrolled activity where permission is not asked. At least one nest failed because geocache located close to a RZ nest.
Paragliders	Legal use -1 Illegal use -4	<	Only SW facing site in the region. Wind patterns changing due to climate change. Site only suitable for experienced operators.
Bird watching	-1	>	Close views not normally required and generally disturbance low.
Wildlife photography	-4	>	Close proximity required and photographer often stays close to nest site.
Landscape photography	-3	> >	Greatly increasing and photography unpredictable often taking place early in the morning.
Game keeping (adjoining land). Predator control/heather burning.	+1	=	Control of corvids, mustelids and squirrels helps protects RZ nests. Benefits offset by burning of moorland resulting in loss of feeding sites.
Weaseling (Organised activity for young children where they climb between and around boulders)	-3	>	Weaseling takes place in habitats that are often used as RZ nesting sites, particularly when birds have been displaced from prime location by climbers.
Artists/musicians/installation artwork.	-1	=	Low level random activity but participants may stay in one position for long period of time.

Orienteering	-1	=	Burbage unofficial orienteering route.
Charity walks, D of E award walks	-2/-3	=	Often accompanied by helpers and checkpoints which are not agreed with land manager.
Filming	-1	>	Potentially damaging activity but always properly controlled and permissions given.
School studies	-2/-3	=	Often high number of students in breeding season studying gradients, geology, hydrology.
Rescue services land, air	-1 for real rescues but up to -4 for exercises.	<	Contacts are being made to try and reduce the competition between land and air rescue teams, which is greatest cause of disturbance during exercises.
Rough sleeping	-2	=	Sleeping in caves and bivi bags near climbing edges.
Sheep grazing	+5	=	Grazing is vitally important in the maintenance of short sward near nest sites for birds to feed. Sheep often gather in the lee of the edges and the required habitats are found here. Grazing levels assessed and currently 320 sheep on North Lees Estate. Grazing pressure is not excessive and is unlikely to have a significant effect on bracken nesting birds.
Cattle grazing	+4	=	Potentially even better than sheep grazing because cattle are less selective when grazing. Smaller numbers and kept in fields so benefits less obvious.

Rabbit grazing	0	=	Benefits reduced because rabbits attract mustelids that prey on RZs. It could be argued that rabbits are preferred prey and could keep predators away from nests so effect not known.

Grazing

Grazing is beneficial for the ring ouzels that breed on the gritstone edges because, at correct levels, it produces patches of short grass that are excellent feeding areas. However, it could also have a negative impact on ground nesting birds by destroying ground cover. The balance is well maintained on the North Lees Estate where bracken, billberry and heather dominate but with abundant patches of short grazed turf.

Habituation

Ring ouzels are shy birds and are easily disturbed. My own observations of them have been in the North Pennines, Cumbria, Scotland and on migration in Norfolk. The birds nesting on the gritstone edges appeared to be wary but somewhat less so than the ring ouzels I had seen elsewhere. This may be a real effect of birds becoming habituated to the high level of disturbance in the area or it could be a coincidence related to the fact that I had never studied ring ouzels in any detail before this sabbatical.

Mitigating disturbance

The main control measures used to reduce disturbance to breeding ring ouzels on the gritstone edges is a combination of education and access control. An information leaflet on ring ouzels has been produced by the Stanage Forum with the assistance of the RSPB. The leaflet is aimed at recreational visitors to the area and details ways in which visitors can help to protect ring ouzels from disturbance. The Stanage Forum is made up of representatives from access and conservation organisations in the area.

The Peak District National Park Authority warden (BG) also cooperates with local British Mountaineering Council (BMC) representatives in restricting access to routes in the vicinity of known nests. This is done by signage and by information on the BMC website. Signage is also in place to try and reduce disturbance by walkers to an area adjacent to Stanage Popular End (PLATE 1). The restriction of access to popular climbing routes relies on accurate identification of nest sites in the early phase when birds are most easily disturbed and are being secretive. This calls for a high degree of

skill and experience. It is also very time consuming. Although many of the climbing routes are not on land owned by the Peak District National Park Authority the warden has a close relationship with local land owners and restrictions can be arranged, although the maximum effort is taken on land within North Lees Estate.

Update 28 May 2012

The cliff nesting ring ouzels at Stanage successfully fledged and the restriction signs were replaced with 'thank you' signs. The nest at the trig point failed, probably due to disturbance, as did all but one of the seven Burbage nests. The young from this nest were predated. The Bamford Edge nest fledged and the Carhead Rocks chicks are due to fledge. In summary, the nests that could only be accessed by climbers and were either actively protected by signage or at remote locations successfully fledged young. Low level nests only succeeded if they were in remote locations. Nests on unsigned busy climbing edges or where large numbers of general visitors had access failed to fledge.

Summary of findings

It is clear that ring ouzels are being disturbed by the recreational activities taking place on and around the gritstone edges within the Peak District National Park. However, due to the abundance of suitable nest sites, plentiful food and protection arranged by national park staff, the population appears to be doing well taking into account the steady decline of ring ouzel numbers generally.

The local climbers appeared to be very supportive of efforts to protect ring ouzels and the two who came out to assist in finding nests and installing notices restricting access to some climbs were very knowledgeable on local wildlife including ring ouzels (PLATES 2, 3). Climbers could be seen as a solution rather than a problem and the local BMC members could also act as volunteer wardens - helping to deal with the random disturbances highlighted in the disturbance table and not just disturbance by climbers. These random uncontrolled events are probably more of a problem than climbing, which is generally a well organised and well regulated activity.

Including a photo of a ring ouzel on access restriction signs is also a good way to raise the issue (PLATE 4). A web address directing interested visitors to an electronic version of the Stanage Forum ring ouzel leaflet or to the Ring Ouzel Study Group website could also be of benefit, particularly to the increasing number of visitors with smart phones. Some access signs are placed discretely and are aimed at climbers and not walkers. There is a balance to be struck because more information may lead to more disturbance by encouraging general visitors seek out ring ouzels. Talks to the local climbing group may also improve knowledge and appreciation of ring ouzels

and their mountain habitats. Knowledge of ring ouzel alarm calls would help climbers understand when they are too close to a nest site.

The techniques developed to protect breeding ring ouzels on the gritstone edges within the Peak District National Park could be mirrored in other areas where ring ouzels are threatened by high visitor numbers. The success of the first brood nests in locations that were specifically protected from disturbance by climbers supports the current methods. However, achieving this is heavily dependent on the time and commitment of skilled individuals and this resource will not be available everywhere, so 'buy in' from key user groups may well be crucial at other locations.

The lessons learnt are less applicable to other species that nest in linear habitats with high levels of disturbance, such as ringed plovers on shingle beaches. This is because of the accessibility of the terrain and a lack of an organised main user group. The only general similarity is the damage done at 'honeypot' sites. Ringed plovers never succeed in breeding in first class habitat close to the main beach car park at Snettisham just as ring ouzels always fail to breed on Higger Tor.

Photo by Tim Melling (RSPB)

PLATES

Plate 1 Access restriction sign.

PLATE 2 Local climber putting out sign to prohibit climbing close to known nest.

Plate 3 Local climber assisting in confirming ring ouzel nest in Green Crack.

PLATE 4 Sign informing climbers of preferred decent route avoiding ring ouzel nest site.