

1 Project Details			
Project Name:	Waddington Fell Restoration Scheme		
Written:	Mark Breaks, <i>Ecologist</i> Eve Loxham, <i>Ecologist</i>	Approved:	Alice Helyar, <i>Principal Ecologist</i>
Report reference:	Waddington Quarry Breeding Bird Survey Report 2020 V1 Waddington Quarry Breeding Bird Survey Report 2020 V2 Waddington Quarry Breeding Bird Survey Report 2021 V3	Date:	07/08/2020 12/08/2020 12/01/2021
2 Project Drawings			
Bird Survey Plans – May 2020	Sheet 1 of 2 – Sheet 2 of 2		
Bird Survey Plans – June 2020	Sheet 1 of 2 – Sheet 2 of 2		
Breeding Bird Survey Overview	Sheet 1 of 1		
3 Ecology Surveys			
Surveyors:	Mark Breaks BSc (Hons) – 2020		
Survey Visits:	Visit 1: Date 20/05/2020 Start time 08:00 End time 10:00 Visit 2: Date 22/06/2020 Start time 07:30 End time 09:30		
Survey Method:	<p>A modified breeding bird survey was conducted in line with the specifications detailed by the British Trust for Ornithology (Gilbert <i>et al.</i> 1998). This methodology follows that stated by Gilbert <i>et al.</i> (1998) for the Breeding Bird Survey (BBS) where a transect is walked through the survey area targeting all habitats on site as considered to be suitable for bird species with high conservation status. The survey frequency comprised two visits throughout the breeding season. Visits are timed so that the first is in the early part of the breeding season (April to mid-May) and the second at least four weeks later (mid-May to the end of June). Mapping methodology comprised plotting the identity and activity of birds recorded within the survey area in line with the Common Bird Census (CBC) approach defined in Gilbert <i>et al.</i> (1998). The surveys were undertaken under appropriate weather conditions (avoiding heavy rain or strong wind).</p> <p>During the surveys, all birds showing signs of ‘confirmed’ or ‘probable’ breeding within the site boundary are mapped showing their location, along with ‘possible’ breeders and other birds that showed no signs of breeding being recorded.</p>		
Weather Conditions:	Visit 1: 6/8 cloud, F1 southerly wind, dry, approximately 11°C. Visit 2: 6/8 cloud, F1 south-westerly wind, dry, approximately 12°C.		
Limitations to the survey:	<p>Ecological surveys are limited by factors which affect the presence of birds such as the time of year and weather conditions. Therefore, the list of species that may potentially utilise the site may not be complete though the survey provides a good indication of the species present and a confident way of identifying the value of the area’s bird community.</p> <p>The whole of the survey area was accessible and the weather during the surveys was optimal allowing for an adequate assessment of breeding birds present. However, due to date of survey area release no surveys were completed in the early part of the breeding season with the first visit narrowly falling after mid-May due to slight postponement of survey due to inclement weather. Two visits</p>		

were undertaken within the breeding season a month apart and it is considered that an adequate assessment of breeding birds is possible though there should be considerations for potentially missed early breeders such as lapwing and raven, noted on the surveys with suitable nesting habitat present.

4 Existing data

No historic bird records were available at the time of writing this report.

Local knowledge:

- The working quarry is a known breeding site for peregrine a Schedule 1 (Wildlife and Countryside Act, 1981 (as amended)) listed species.

5 Habitat Description



North: Large working quarry, large lagoons, silted former lagoons, settling ponds, ephemeral vegetation, marshy grassland, wet/dry dwarf shrub heath, bracken, mature willow scrub and mixed plantation woodland.

6.1 Breeding bird survey results

Species	Visit 1 (number recorded)	Visit 2 (number recorded)	Cons. status	Breeding status
black-headed gull (BH)	19 nests	22 nests	A	C
blackbird (B.)	1	2		Po
buzzard (BZ)	1	1		Po
Canada goose (CG)	4 (8 birds)	4		C
carrion crow (C.)		2		Po
common redstart (RT)	1		A	Po
cuckoo (CK)	1	1	S41, R	Pr
goldfinch (GO)	1	2		Po
grey wagtail (GL)	1	1	R	Po
lapwing (L.)	(5 birds)	(2 birds)	S41, R	Po

lesser black-backed gull (LB)	(4 birds)		A	N
linnet (LI)	2	1	S41, R	Po
Species	Visit 1 (number recorded)	Visit 2 (number recorded)	Cons. status	Breeding status
little ringed plover (LP)		1	SH1	Po
mallard (MA)	(7 drakes)	1 (4 drakes)	A	C
meadow pipit (MP)	10	11	A	C
oystercatcher (OC)	1	1	A	C
peregrine (PE)	1	1	SH1	C
pied wagtail (PW)	3	3		C
raven (RN)	1			Po
reed bunting (RB)	2	2	S41, A	Pr
robin (R.)		1		Po
skylark (S.)	3	3	S41, R	Pr
stonechat (SC)	2	1		C
swallow (SL)	3	1		Pr
swift (SI)	(2 birds)		A	N
willow warbler (WW)	6	3	A	Pr
wren (WR)	6	5		C

Key: C = Confirmed; Pr = Probable; Po = Possible; N = Not; R = Red List; A = Amber List;
Sch 1 = Schedule 1; S41 = NERC Act conservation priority species; Cons. = Conservation

7 Summary

A total of 27 bird species were recorded using Waddington Quarry:

- Nine species were confirmed breeding as follows: black-headed gull (Amber listed), Canada goose, mallard (Amber listed), meadow pipit (Amber listed), oystercatcher (Amber listed), peregrine (Schedule 1), pied wagtail, stonechat and wren;
- Five species were identified to be probable breeding on site including: cuckoo (S41, Red listed), reed bunting (S41, Amber listed), skylark (S41, Red listed), swallow and willow warbler (Amber listed);
- Eleven species were recorded as possible breeders on site including: blackbird, buzzard, carrion crow, common redstart (Amber listed), goldfinch, grey wagtail (Red listed), lapwing (S41, Red listed), linnet (S41, Red listed), little ringed plover (Schedule 1), raven and robin; and
- Two species were sighted using the survey area, however, they were considered to be non-breeding, comprising, four lesser black-backed gull (Amber listed) and two swift (Amber listed) were recorded flying over.

8 Evaluation

Fuller (1980) devised a method of classifying the ornithological interest of sites for conservation based on three site attributes: population size, rarity and diversity. These criteria were followed in the evaluation of the results. The total number of confirmed, probable and possible breeding bird species recorded within a site also indicates its significance.

Table 1 includes the breeding diversity criteria devised by Fuller (1980).

Table 1: Significance of the total number of breeding species recorded at a site

Local	County	Regional	National
25-49	50-69	70-84	85+

No significant breeding bird concentrations (i.e. 1% or more of the national breeding population) or nationally rare breeding bird species (i.e. between 1 and 1,000 breeding pairs; Musgrove *et al.*, 2013) were recorded during the survey.

Based on Fuller's criteria, the 25 confirmed, probable and possible breeding bird species recorded within the survey area indicates that it is of local significance for breeding birds. Weight is added to this evaluation by the presence of five species of high (Red listed) conservation concern and seven species of medium (Amber listed) conservation concern within the site.

This site has great importance with confirmed presence of one breeding pair of peregrine and a little ringed plover seen in suitable nesting habitat, Schedule 1 (Wildlife and Countryside Act, 1981 (as amended)) listed bird species. Up to five lapwing that are S41 priority species (NERC Act, 2006) were sighted using the site in suitable nesting habitat where it is considered that breeding could have been potential earlier in the breeding season. The site and surrounding habitat are dominated by upland heath and grassland where two pairs of linnet, three skylark territories and a cuckoo territory were confirmed, which are S41 priority species (NERC Act, 2006) and Red listed conservation concern species were recorded. The wet scrub margins to the lagoons held two pairs of reed bunting (S41 priority species and Amber listed conservation concern species).

9 References

- Eaton, M. et al. 2015. Birds of Conservation Concern 4: The Population Status of Birds in the UK, Channel Islands and Isle of Man. *British Birds* 108: 708-746
- Fuller, R.J., 1980. A method for assessing the ornithological interest of sites for conservation. *Biological Conservation*, 17(3), pp.229-239.
- Gilbert G, Gibbons DW and Evans J (1998). *Bird Monitoring Methods: A manual of techniques for key UK species*. RSPB, Bedfordshire
- CIEEM, 2006. *Guidelines for Ecological Impact Assessment in Britain and Ireland (Terrestrial, Freshwater and Coastal)*. Chartered Institute of Ecology and Environmental Management, Winchester.
- Musgrove, A., Aebischer, N., Eaton, M., Hearn, R., Newson, S., Noble, D., Parsons, M., Risely, K. and Stroud, D., 2013. Population estimates of birds in Great Britain and the United Kingdom. *British Birds*, 106, pp.64-100.