

RING OUZEL DIALECTS

of the

NORTH YORK MOORS



© Peter Waterton

Kendrick S. Hutchinson

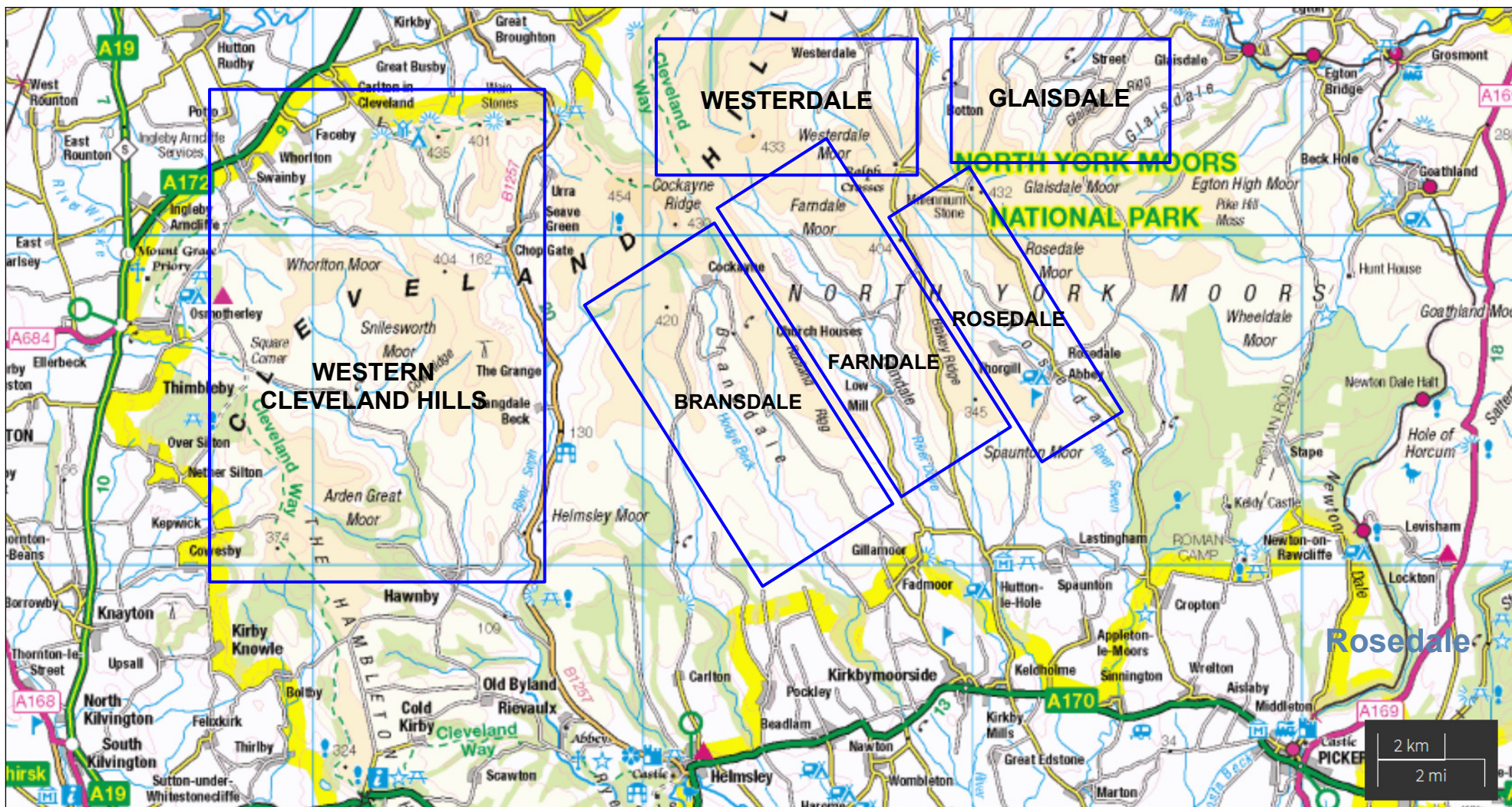
2025

INTRODUCTION

1. The North York Moors was given National Park status in 1952. Located in north-east England, it is the most easterly breeding place in Britain for Ring Ouzels. It is an isolated population with the nearest breeding ground being over 60 kilometres away in the Yorkshire Dales National Park. This isolation lends itself to the study of the Ring Ouzel dialect in what in effect is a 'contained' population.
2. Between 2003 and 2024 just over 300 sound recordings were made, of which over 250 alone were in Rosedale. Of these, the recordings shown in Table 1 were found to be of sufficient clarity, when displayed on a sonogram, to permit a more detailed analysis of the structure of the song.
3. The Ring Ouzel song, or 'simple' song, is usually delivered singly and in groups of two, three or four notes (sometimes five) spaced about 0.25 s apart at a frequency of around three kilohertz. The sonograms displayed in Table 2 show one of these notes expanded in time.
4. A simple song note consists of one or more distinct forms that are referenced here in Table 2 as *Type 1*, *Type 2* etc. The *Type 1* form is the main simple song sung by birds from a particular geographic area and as such can be regarded as the homologous form, or dialect, of that area – see Table 2/1 recording 40, showing a typical Rosedale *Type 1* dialect. The *Type 2* form can sometimes appear in an individual bird's repertoire (or not at all) - in a few recordings a *Type 3* form has been noted – see Table 2/3 recording 71/72.
5. A frequency modulated form of the homologous dialect is often present in the simple song of Ring Ouzels and can be regarded as a variant of the un-modulated *Type 1* form – see Table 2/1 recording 39. In a few recordings this was the dominant *Type 1* form that was seen to occur throughout most of the bird's repertoire.
6. Further information on Ring Ouzel vocalisation can be found in the book: THE RING OUZEL A View From The North York Moors by Vic Fairbrother and Ken Hutchinson (2020)
7. The sound recordings were made as part of the wider long term study of Ring Ouzels on the North York Moors of which Rosedale formed the core study area.
8. The map at Fig.1 shows the western half of the North York Moors with the key breeding areas identified where sound recordings were made – the altitude of the land in the eastern half lies mostly below the minimum height preferred for breeding Ring Ouzels. Those maps in Fig.2-4 show the location where the recordings detailed in Table 1 were made. The topographical map of Rosedale shows the local names used in the more detailed study of this area that are used in Table 1.
9. Several of the sound recordings used in this study were provided by the late David Stemple and Chris Tyas. I'm most grateful to both David's family and to Chris for permission to use their sound recordings.
10. Finally, over 300 sound recordings have been made across the North York Moors of the Ring Ouzel song. In 2025 these were archived at the University of York Borthwick Institute for Archives. They can be accessed there to listen to or for research purposes.

DISCUSSION

1. Studies of the Ring Ouzel song on the North York Moors followed on from the work done by David Stemple in the late 90s early 2000s in Scotland, in which he showed that the Ring Ouzel song could be associated with a particular geographic area. The North York Moors study aimed to see if the Ring Ouzel song here, as in Scotland, could also be associated with a geographic area.
2. Detailed analysis over the past 20+ years of sound recordings of North York Moors Ring Ouzels has clearly shown there to be a geographic association with the Ring Ouzel simple song. In some areas, such as Rosedale and the western Cleveland Hills, this was seen to be strongly linked to those areas as did those central dales of Bransdale, Farndale and Westerdale in the early part of the study. However, as more recordings have been made in these central areas the dialect now seems to be less clearly defined than at first noted and needs further study.
3. A considerable number of sound recordings have been made in the Rosedale area. These have clearly shown that this most easterly breeding area for Ring Ouzels on the North York Moors has its own distinct dialect; as the sonograms in Table 2/1 clearly show. Likewise on the western edge of the North York Moors, along the Cleveland Hills, a distinct local dialect can be discerned from the recordings in Table 2/3; though a lower number of sound recordings are available in this analysis compared to Rosedale.
4. In the more central dales of Bransdale, Farndale and Westerdale the local dialect, as noted above, is less clear. The current thinking, after analysis of more recent recordings of birds breeding in these central dales, is that some of these have likely dispersed from their natal sites on the extreme western and eastern breeding grounds. This has resulted in the dialect of birds returning to these central areas to breed becoming 'diluted' and less well defined.
5. An example of dispersal can be seen in Table 2/2 recording 21/22/23 where a bird having a distinct Rosedale dialect turned up in Bransdale to breed. Similarly, Table 2/4 recording 46 shows a bird with a distinct *Type 1* western Cleveland Hills and Rosedale *Type 2* dialect having dispersed to Farndale. And in Table 2/5 recording 52-54 where a bird with a distinct Rosedale *Type 1* and 2 dialect has dispersed to Westerdale to breed. Only two recordings were made in Glaisdale (Table 2/6), both show evidence to suggest a Rosedale connection in these bird's song – not too surprising as the geographic separation is just a few kilometres.
6. The Rosedale *Type 2* form shown in Table 2/1 is interesting in that it appears frequently in the recordings made between 2009 and 2023. Like the *Type 1* form of the Rosedale dialect, this seems to be strongly associated with birds coming from nests in this geographic area.
7. The sound recordings shown in Table 2 were obtained using the software programme Raven Lite 2, a free to download and use programme from The Cornell Lab of Ornithology web site. This programme lets users record, save and visualise sounds as a sonogram waveform. The Raven Lite 2 settings used to display the sonograms in Table 2 were: Colour - set to Black and White; Contrast - set to 90; Brightness - increased to reduce background noise; Zoom Y axis - set to centre frequency scale to around 3kHz; Zoom X axis - set to expand time scale to display single note of the song.



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Figure 1: North York Moors western area showing key areas where recordings were made

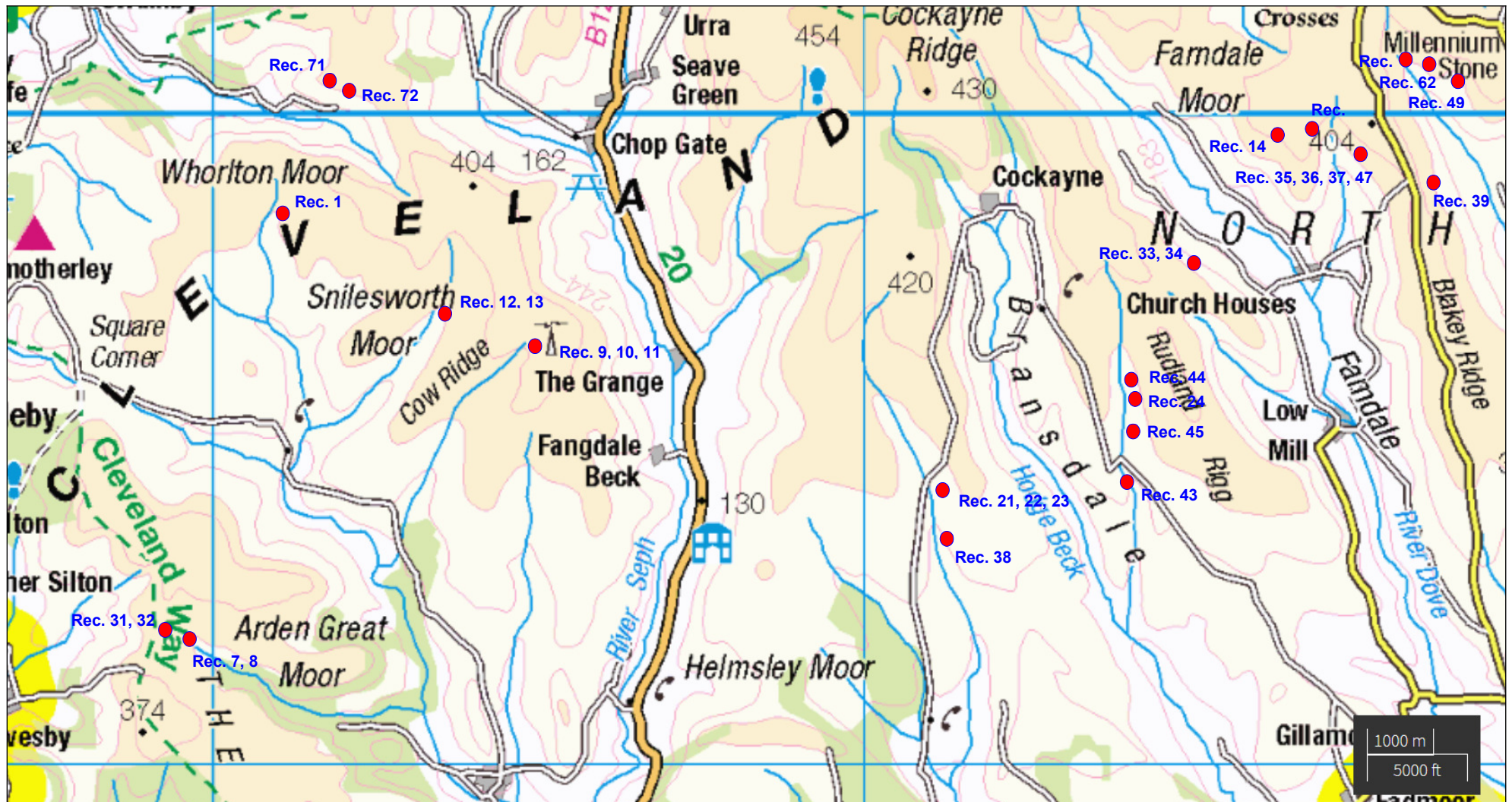


Figure 2: Location of recordings in the south-west area of the North York Moors

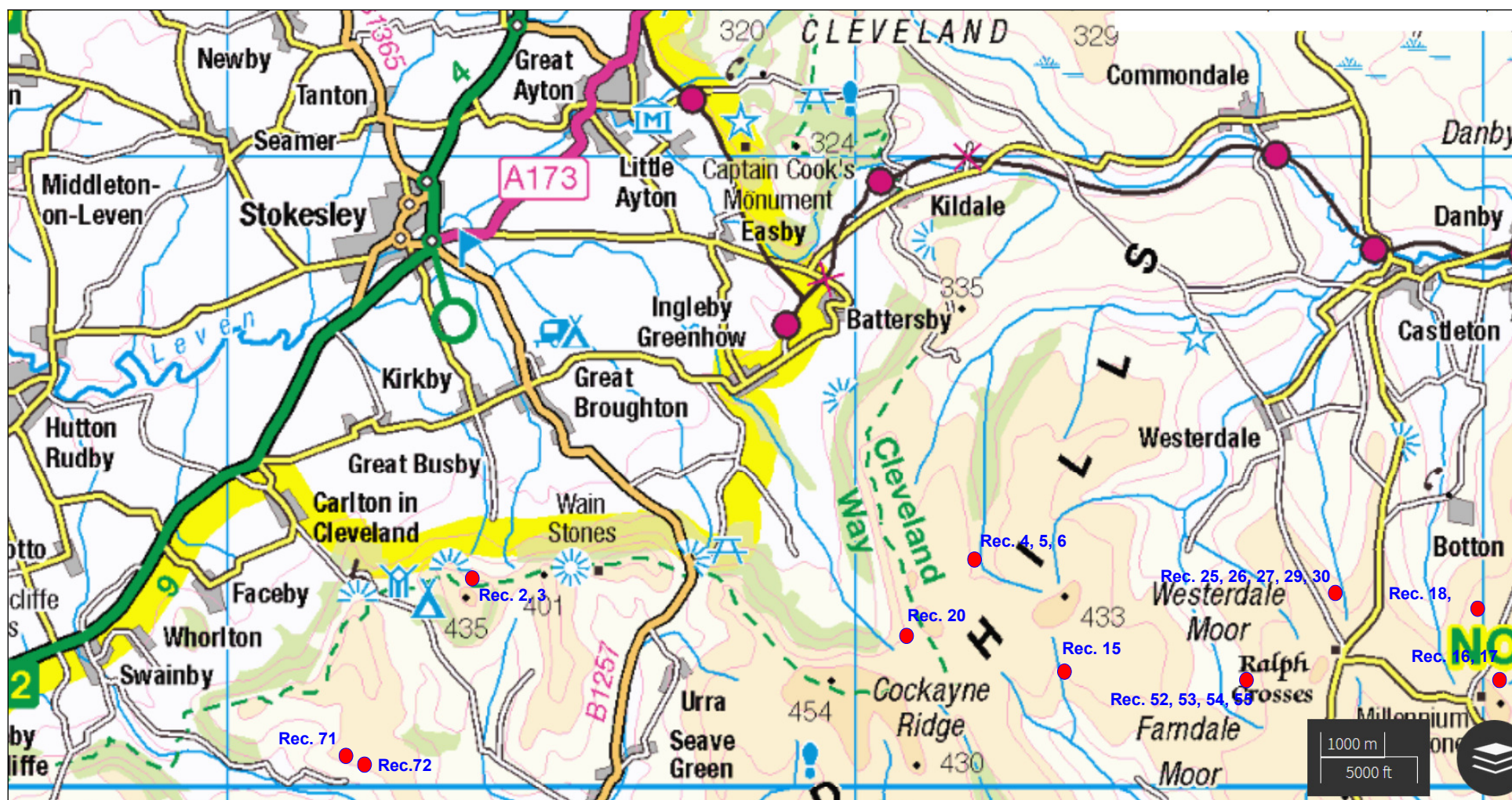


Figure 3: Location of recordings in the north-west area of the North York Moors

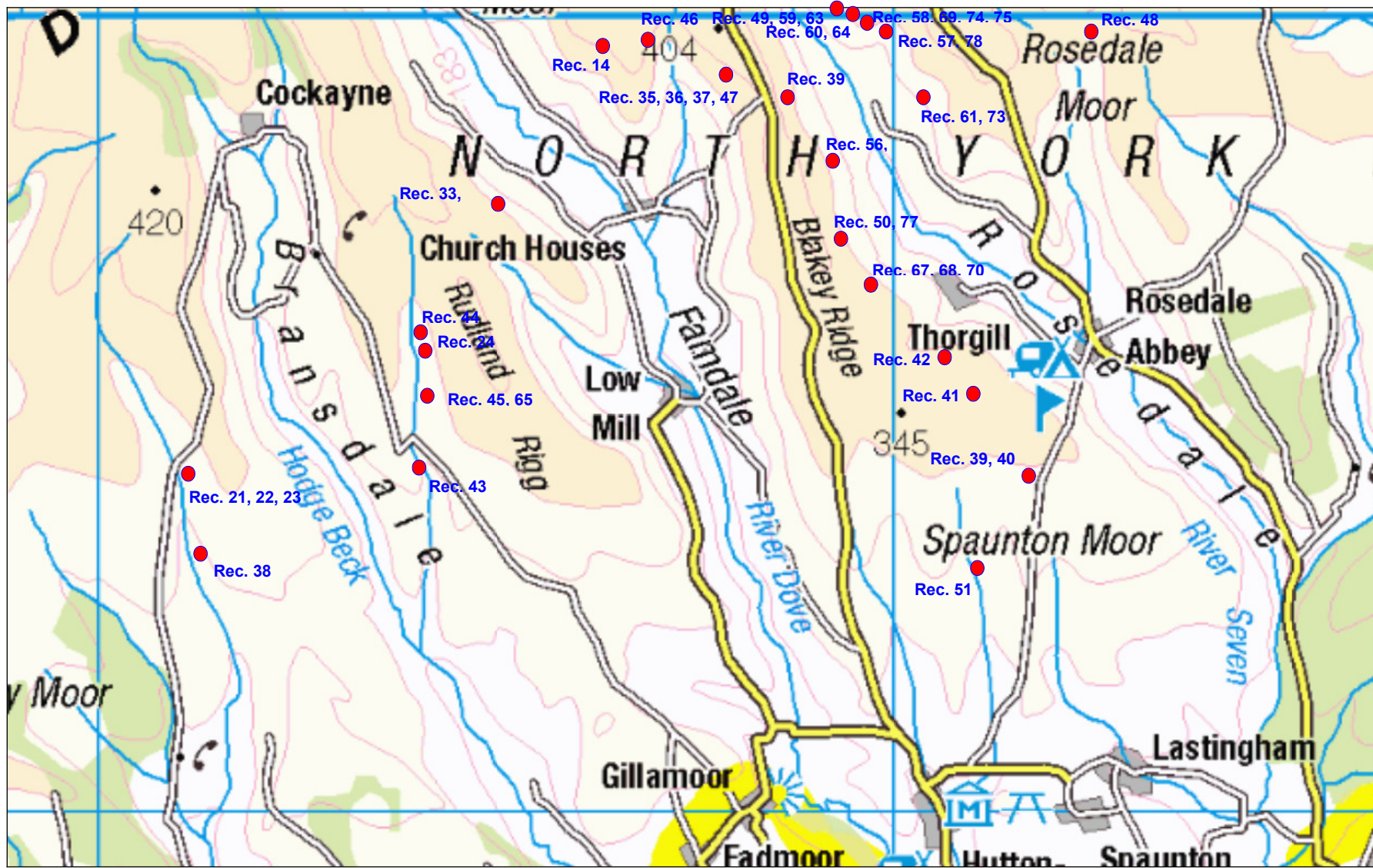


Figure 4: Location of recordings in the south-central area of the North York Moors

Topographical map of the Rosedale area showing name & location of territories

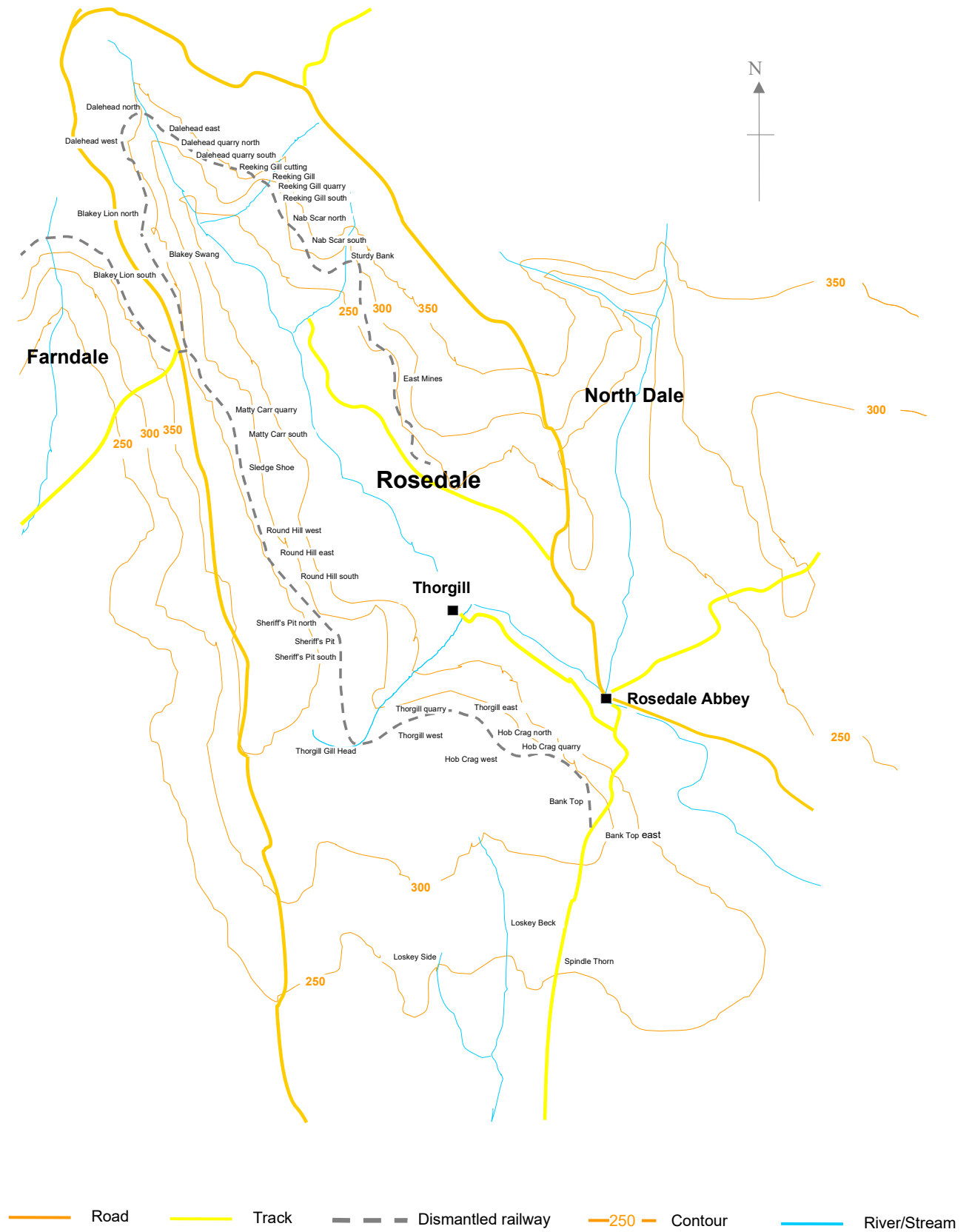


Table 1: Details of North York Moors locations where Ring Ouzel sound recordings were made

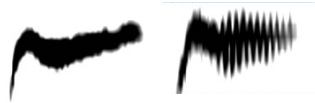
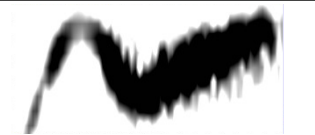
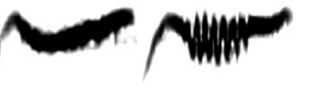
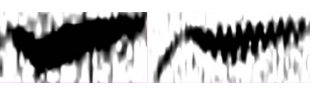
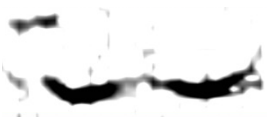
No.	Location	NGR	Date
1	Snilesworth	SE53709764	16-04-17
2	Kirby Bank 1	NZ538033	19-04-17
3	Kirby Bank 2	NZ538023	19-04-17
4	ArmouthWath 1	NZ61970346	20-04-17
5	ArmouthWath 2	NZ61970346	20-04-17
6	ArmouthWath 3	NZ61970346	20-04-17
7	Arden Gt. Moor 1	SE495924	22-04-17
8	Arden Gt. Moor 2	SE495924	22-04-17
9	Bilsdale TV mast 1	SE55389613	23-04-17
10	Bilsdale TV Mast 2	SE55389613	23-04-17
11	Bilsdale TV Mast 3	SE55389614	23-04-17
12	Parci Gill 1	SE53969567	23-04-17
13	Parci Gill 2	SE53969567	23-04-17
14	Potter's Nab	SE664992	01-05-17
15	Farndale E. Gill	NZ63190161	01-05-17
16	Trough Gill 1	NZ71460181	02-05-17
17	Trough Gill 2	NZ71460181	02-05-17
18	Old Hannah's Nick 1	NZ69990357	02-05-17
19	Old Hannah's Nick 2	NZ69990357	02-05-17
20	Rud Scar	NZ60730239	09-05-17
21	Bonfield Gill south 1	SE611937	16-05-17
22	Bonfield Gill south 2	SE611937	16-05-17
23	Bonfield Gill south 3	SE611937	16-05-17
24	Ousegill	SE640949	16-05-17
25	Stone Rook Hill 1	NZ676032	17-05-17
26	Stone Rook Hill 2	NZ676032	17-05-17
27	Stone Rook Hill 3	NZ676032	17-05-17

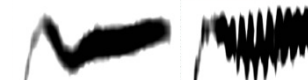
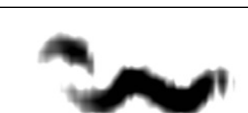
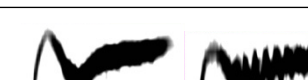
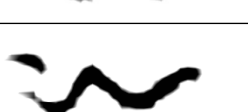
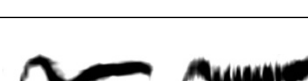
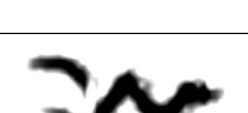
No.	Location	NGR	Date
29	Stone Rook Hill 4	NZ676032	17-05-17
30	Stone Rook Hill 5	NZ676032	17-05-17
31	Whitestone Scar 1	SE486929	19-05-17
32	Whitestone Scar 2	SE486929	19-05-17
33	Monket House 1	SE656971	20-05-17
34	Monket House 2	SE656971	20-05-17
35	Round Crag 1	SE674997	20-05-17
36	Round Crag 2	SE674997	20-05-17
37	Round Crag 3	SE674997	20-05-17
38	CinderhillWath	SE61109309	17-04-16
39	Blakey Bank	SE68399895	22-04-03
40	Bank Top 1	SE72019512	22-04-03
41	Bank Top 2	SE72129494	22-04-03
42	Hob Crag quarry	SE71469536	27-05-17
43	Ousegill Bridge	SE63929455	25-04-09
44	Ousegill 1	SE64019512	27-05-10
45	Ousegill 2	SE63949466	27-05-10
46	Gill Wath	SE67049971	30-04-09
47	Round Crag	SE67559939	02-06-11
48	Northdale Nth. Gill	SE72629948	23-04-09
49	Reeking Gill quarry	NZ69180043	24-04-14
50	Sledge Shoe Bents	SE69059776	07-06-16
51	Loskey Beck	SE71309333	03-05-16
52	Esklets Crags 1	NZ66220151	14-05-15
53	Esklets Crags 2	NZ66220150	14-05-15
54	Esklets Crags 3	NZ66220150	14-05-15
55	Esklets Crags 4	NZ65740147	14-05-15

No.	Location	NGR	Date
56	Matty Carr quarry	SE68809838	26-05-14
57	Sturdy Bank	SE69869989	14-05-09
58	Nab Scar	NZ69360000	16-04-09
59	Reeking Gill	NZ69140065	14-04-11
60	Reeking Gill sth	NZ69200034	06-06-13
61	East Mines	SE70239924	29-04-20
62	Dalehead quarry	NZ68410066	03-06-10
63	Reeking Gill	NZ69140065	24-03-21
64	Reeking Gill south	NZ69050031	23-04-21
65	Ousegill	SE63949465	05-05-21
66	Dalehead	NZ68020104	12-05-21
67	Round Hill east	SE69259703	10-05-18
68	Round Hill east	SE69359695	24-05-21
69	Nab Scar north	SE69439995	28-04-22
70	Round Hill east	SE69399691	17-05-22
71	Barker's Crags	NZ52400030	02-05-22
72	Barker's Crags	NZ52600010	02-05-22
73	East Mines	SE70239924	28-04-23
74	Nab Scar south	SE69509980	02-05-23
75	Nab Scar north	SE69439995	23-05-23
76	Matty Carr quarry	SE68809838	17-05-23
77	Sledge Shoe	SE69059776	17-05-23
78	Sturdy Bank	SE69869989	05-05-24

Recordings tabled above by: 1-38, 71, 72 Chris Tyas; 39-41 David Stemple; 42-70, 73-78 Kendrick Hutchinson

Table 2/1: Sonograms of recordings made in the Rosedale area

No.	LOCATION	AREA	TYPE 1	TYPE 2	TYPE 3	OBSERVATIONS
39	Blakey Bank 22 April 2003	Rosedale west side		-	-	The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form.
40	Bank Top 1. 22 April 2003	Rosedale west side		-	-	No modulated notes were found in this recording.
41	Bank Top 2. 22 April 2003	Rosedale west side		-	-	The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form.
57	Sturdy Bank 14 May 2009	Rosedale east side		-	-	The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form.
48	Northdale 23 April 2009	North Gill			-	The <i>Type 1</i> form is shown here in both the plain and frequency modulated form. Northdale is a minor dale off Rosedale. Weak recording.
58	Nab Scar 16 April 2009	Rosedale east side			-	The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form. Just four notes of the <i>Type 2</i> form appeared in 9 minutes of recording.
62	Dalehead quarry 3 June 2010	Rosedale east side			-	Has look of recording 46 recorded in Gill Wath, Farndale, on 30 April 2009. Has western Cleveland Hills <i>Type 1</i> form - see recordings 12/13 & 31/32. Suggests this bird had moved to Rosedale to breed.

59	Reeking Gill 14 April 2011	Rosedale east side			-	The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form.
60	Reeking Gill south 20 June 2013	Rosedale east side			-	The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form.
56	Matty Carr quarry 26 May 2014	Rosedale west side			-	The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form.
49	Reeking Gill 24 April 2014	Rosedale east side			-	The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form.
51	Loskey Beck 3 May 2016	Rosedale west side (Spaunton Moor)			-	The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form.
50	Sledge Shoe 7 June 2016	Rosedale west side			-	The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form.
42	Hob Crag quarry 27 May 2017	Rosedale west side			-	The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form.
67	Round Hill east 10 May 2018	Rosedale west side			-	The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form. This male is the 'father' of recording 66 below.
61	Between East Mines & Sturdy Bank 29 April 2020	Rosedale east side			-	Has form similar to the Farndale <i>Type 1</i> - see recordings 14/15, 33/34 & 35/36/37. This bird was also recorded at Sturdy Bank on 3 rd May and is thought to be the male that had a first nest there. Has similar form to that of recording 63 below.

63	Reeking Gill 24 March 2021	Rosedale east side		-	-	This bird was the first arrival in the dale in 2021. Its form is similar to the Farndale <i>Type 1</i> - see recordings 14/15, 33/34 and 35/36/37. Has similar form to that of recording 61 above.
64	Reeking Gill south 23 April 2021	Rosedale east side		-	-	This is similar to the Rosedale <i>Type 2</i> form. Could this bird have 'latched' on to its parents Rosedale <i>Type 2</i> song and used this for its own <i>Type 1</i> homologous song?
66	Dalehead 12 May 2021	Rosedale east side				The <i>Type 1</i> form of the Rosedale dialect is shown here in both the plain and frequency modulated form. This is the first recording that a <i>Type 3</i> form has been noted in the repertoire of a Rosedale bird and is sung in equal measure with the other types throughout the bird's repertoire. This male had yellow ring CY and was one of three ringed on 18 May 2018 at Round Hill east. This male is the 'son' of recording 67 above.
68	Round Hill east 24 May 2021	Rosedale west side			-	The <i>Type 1</i> (homologous) form of the Rosedale dialect is shown here in both the plain and frequency modulated form.
69	Nab Scar north 28 April 2022	Rosedale east side				The <i>Type 1</i> form of the Rosedale dialect is shown here in the plain form. A few notes of the frequency modulated <i>Type 1</i> form were occasionally sung. The <i>Type 2</i> form is similar to other birds recently recorded on the east side of Rosedale and has a Farndale <i>Type 1</i> look - see 61, 63 & 66. There were just 2 notes of <i>Type 3</i> form in 3 mins of recording which were noticeably lower in pitch.
70	Round Hill east 17 May 2022	Rosedale west side		-	-	There were no <i>Type 2</i> or <i>3</i> forms evident in the birds repertoire.
73	East Mines 28 April & 23 May 2023	Rosedale east side		-	-	This bird had a BTO metal ring and was almost certainly ringed as a pullus on the east side of the dale prior to the 2023 season. There were no <i>Type 2</i> or <i>3</i> forms evident in the bird's repertoire.

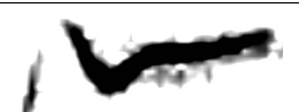
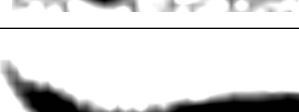
74	Nab Scar south 2 May 2023	Rosedale east side			-	
75	Nab Scar north 23 May 2023	Rosedale east side			-	This bird has a <i>Type 1</i> form similar to that of Farndale and Bransdale <i>Type 1</i> – see 14/15, 33/34, 35/36/37, 61 & 63; the last two both recorded close to where this recording was made.
76	Matty Carr quarry 17 May 2023	Rosedale west side		-	-	There were no <i>Type 2</i> or <i>3</i> forms evident in the bird's repertoire.
77	Sledge Shoe 17 May 2023	Rosedale west side			-	
78	Sturdy Bank 5 May 2024	Rosedale east side			-	The <i>Type 1</i> form is shown here in the plain form. There were no notes of the frequency modulated <i>Type 1</i> form sung. The <i>Type 2</i> form is similar to other birds recently recorded on the east side of Rosedale and has a Farndale <i>Type 1</i> look - see 61, 63 & 66

Table 2/2: Sonograms of recordings made in the Bransdale area

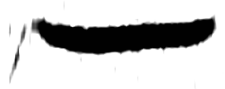
No.	LOCATION	AREA	TYPE 1	TYPE 2	TYPE 3	OBSERVATIONS
43	Ousegill Bridge 25 April 2009	Bransdale east side			-	The <i>Type 2</i> form has the look of the Rosedale <i>Type 1</i> form.
44	Ousegill 1 27 May 2010	Bransdale east side			-	
45	Ousegill 2 27 May 2010	Bransdale east side				
38	Cinderhill Wath 17 April 2016	Bransdale west side			-	
21/22/23	Bonfield Gill south 16 May 2017	Bransdale west side	 		-	This recording has the look of the Rosedale <i>Type 1</i> & 2 form - the <i>Type 1</i> form appears in the bird's repertoire in both the plain and frequency modulated form. Likely that this male's natal nest was in Rosedale & has returned to breed in Bransdale.
24	Ousegill 16 May 2017	Bransdale east side	 		-	The <i>Type 1</i> form appears in the bird's repertoire in both the plain and frequency modulated form. The <i>Type 2</i> form has the look of a Rosedale <i>Type 2</i> .
65	Ousegill 5 May 2021	Bransdale east side		-	-	There were no <i>Type 2</i> or 3 forms evident in the bird's repertoire.

Table 2/3: Sonograms of recordings made in the western Cleveland Hills area

No.	LOCATION	AREA	TYPE 1	TYPE 2	TYPE 3	OBSERVATIONS
1	Arnskill 16 April 2017	Snilesworth Moor		-	-	There were no <i>Type 2</i> or <i>3</i> forms evident in the bird's repertoire.
2/3	Kirby Bank 19 April 2017	Cringle Moor		-	-	There were no <i>Type 2</i> or <i>3</i> forms evident in the bird's repertoire.
7/8	Arden Great Moor 22 April 2017	Arden Great Moor		-	-	There were no <i>Type 2</i> or <i>3</i> forms evident in the bird's repertoire.
9/10/11	Bilsdale Mast 23 April 2017	Bilsdale West Moor		-	-	All 3 recordings are of the same bird recorded within 5 minutes of each other. There were no <i>Type 2</i> or <i>3</i> forms evident.
12/13	Parci Gill 23 April 2017	Snilesworth Moor			-	The <i>Type 2</i> form has look of Rosedale <i>Type 1</i> . Recordings 12 & 13 are most likely the same bird recorded 2 minutes apart. Some of the <i>Type 1</i> forms were modulated.
31/32	Whitestone Scar 19 May 2017	Kepwick Moor		-	-	Recording 32 is noisy but has the same form as 31. Most likely the same bird recorded 9 minutes apart. There were no <i>Type 2</i> or <i>3</i> forms evident in the bird's repertoire.
71/72	Barker's Craggs 02 May 2022	Whorlton Moor				<i>Type 1</i> has look of Rosedale <i>Type 1</i> & is similar to <i>Type 2</i> of 12/13 above. The <i>Type 2</i> is also similar to <i>Type 1</i> of 12/13. The <i>Type 3</i> form is unusual & noticeably lower in pitch. 71 & 72 are same bird recorded 25 min apart.

Table 2/4: Sonograms of recordings made in the Farndale area

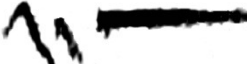
No.	LOCATION	AREA	TYPE 1	TYPE 2	TYPE 3	OBSERVATIONS
46	Gill Wath 30 April 2009	Gill Wath gill head			-	The <i>Type 1</i> & 2 notes appear equally throughout the 4 minute recording. Most likely the same bird as recording 62 recorded in Dalehead quarry, Rosedale, on 3 June 2010. Has western Cleveland Hills <i>Type 1</i> form (see recordings 12/13 & 31/32).
47	Round Crag 2 June 2011	Gill Wath east side of gill			-	Recording has the look of the Rosedale <i>Type 1</i> & 2 dialect (see Table 2/1 above). Likely that this male's natal nest was in Rosedale & has returned to breed in Farndale.
14	Potter's Nab 01 May 2017	High Blakey Moor			-	The <i>Type 1</i> form has a Bransdale dialect look to it. The <i>Type 2</i> form has an unusual structure that had an obvious lower pitch than normal for North York Moors Ring Ouzels.
15	East Gill 01 May 2017	Farndale Middle Head		-	-	The <i>Type 1</i> form has a Bransdale dialect look to it and appears in both plain and modulated form. There were no <i>Type 2</i> or 3 in 4 minutes of recording.
33/34	Monket House 20 May 2017	Farndale west side of dale			-	The <i>Type 1</i> song appears in both plain & modulated form throughout the bird's repertoire and has a Bransdale dialect look to it. The <i>Type 2</i> form has an unusual structure that has an obvious lower pitch than normal for North York Moors Ring Ouzels.
35/36/37	Round Crag 20 May 2017	Gill Wath east side of gill			-	The <i>Type 1</i> form has a Bransdale dialect look to it. The <i>Type 2</i> form has an unusual structure that has an obvious lower pitch than normal for North York Moors Ring Ouzels. Only three <i>Type 2</i> notes were sung in 12 minutes of recording.

Table 2/5: Sonograms of recordings made in the Westerdale area

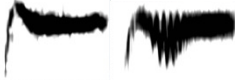
No.	LOCATION	AREA	TYPE 1	TYPE 2	TYPE 3	OBSERVATIONS
52/53/54 NZ66220151	Esklets Craggs 14 May 2015	Westerdale Moor			-	Has look of Rosedale <i>Type 1</i> & 2 form. The <i>Type 1</i> form appears in the bird's repertoire in both the plain and frequency modulated form.
55 NZ65740147	Esklets Craggs 14 May 2015	Westerdale Moor		-	-	There were no <i>Type 2</i> or 3 forms evident in the bird's repertoire.
4/5/6	ArmouthWath 20 April 2017	Stockdale Moor			-	
20	Rud Scar 09 May 2017	Greenhow Moor				There were just two <i>Type 3</i> forms that were noticeably lower in pitch (2.3-2.7 kHz) than other notes in the recording that are around 3 kHz (typical frequency for Ring Ouzels).
25/26/27/29/30	Stone Rook Hill 17 May 2017	Westerdale Moor				The <i>Type 1</i> form is similar to the Farndale <i>Type 1</i> form. See Farndale recordings 14/15, 33/34 & 35/36/37.

Table 2/6: Sonograms of recordings made in the Glaisdale area

No.	LOCATION	AREA	TYPE 1	TYPE 2	TYPE 3	OBSERVATIONS
16/17	Trough Gill 02 May 2017	Glaisdale Moor Gt. Fryup Head				The <i>Type 2</i> form is the same as the Rosedale <i>Type 2</i> form and the <i>Type 3</i> form is the same as the Rosedale <i>Type 1</i> modulated form.
18/19	Old Hannah's Nick 02 May 2017	Danby High Moor Grey Stones				<i>Type 2</i> form is the same as the Rosedale <i>Type 2</i> and the <i>Type 3</i> form is the same as the Rosedale <i>Type 1</i> modulated form.