

# *Red Grouse*

*on The Long Mynd*

*Survey and Population Estimate*

*2013*





# Estimating the Red Grouse Population on The Long Mynd 2013

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## Strettons Area Community Wildlife Group

There are several Community Wildlife Groups in the Shropshire Hills Area of Outstanding Natural Beauty (AONB), including Strettons Area Community Wildlife Group (SACWG), which was launched in February 2012.

### The Groups

- Bring together people interested in wildlife
- Undertake survey work to establish the status of key bird and plant species and habitats
- Encourage and enhance local interest in wildlife
- Actively promote conservation.

More information can be found on the website, [www.ShropsCWGs.co.uk](http://www.ShropsCWGs.co.uk) SACWG helped promote this survey, and organised it in 2013. Several members participated.

Funding for the development of Community Wildlife Groups has been secured from the “LEADER in the Shropshire Hills” programme, co-ordinated by the Shropshire Hills AONB Partnership with Defra as the Managing Authority. This support is gratefully acknowledged:-

“LEADER in the Shropshire Hills: Project part financed by the European Agricultural Fund for Rural Development 2007-2013: Europe investing in rural areas”.





## Introduction

Systematic monitoring of the Red Grouse population was carried out by the National Trust, through dawn counts of calling territorial males in winter, for several years. Two dawn counts in the winter of 2009–10, coupled with casual records, indicated a minimum of 32 territories, but, adding observations of birds only seen or heard once, the estimated population was around 51. Three dawn counts in the winter of 2010–11, coupled with casual records, indicated a minimum of 40 territories, but, adding observations of birds only seen or heard once, the estimated population was around 59 (Caroline Uff, *pers.comm.*).

This method did not produce a sufficiently accurate population estimate for such a scarce species, or to assess the effectiveness of the Trust's heather management. It was therefore decided to pilot a new survey method in 2011. Personal observations over many years have found that male birds also display at dusk, and a project was undertaken to estimate the Red Grouse population by mapping such displays.

Efforts were made to recruit as many participants as possible, and the project produced a population estimate of 60 – 63 territorial males. The project was considered a success, and was repeated in 2012. Again, efforts were made to recruit as many participants as possible. The new Strettons Area Community Wildlife Group helped organise the project in 2012, which produced a population estimate of 60 – 63 territorial males.

A full report was produced each year (*Red Grouse on The Long Mynd: Survey and Population Estimate (Year)*). These Reports can be found on the Community Wildlife Groups website, [www.ShropsCWGs.org.uk](http://www.ShropsCWGs.org.uk)

It is hoped to repeat the project each year to produce a population trend. Again, efforts were made to recruit as many participants as possible for the 2013 survey. The 2013 publicity leaflet is attached as Appendix 1.

Everyone who offered to help with the project was invited to a briefing on Thursday 21<sup>st</sup> March 2013, though many people who participated in previous years felt it unnecessary to attend a second briefing. A PowerPoint presentation was made, explaining the objectives of the project, and what to look for and record. A video of displaying Grouse was shown.

A Project Brief was supplied to all participants. It is attached as Appendix 2. It incorporated some changes to the 2012 Brief, reflecting the lessons learnt as set out in the 2012 Report.

## Methodology

Sixty-seven Watch Points, selected to give a good field of view of part of the survey area, were identified, and marked on enlarged copies of 1:10,000 Ordnance Survey maps. There were seven more Watch Points than in 2012, as some new areas on the edge of the range were included, as they might be coming into suitable condition as a result of the heather management.

There were nine different survey maps altogether, and some of these are used as background to present the Project results (see pages 5 - 12). The 67 Watch Points are marked on these maps (There is no Watch Point 43).

It was intended to start the survey on 4 April, and hold it each Thursday until 8 May. This was similar to the timetable followed in 2012, which started two weeks earlier than the 2011 survey because more Grouse were observed on the earlier survey dates in 2011.

However, a heavy late snowfall meant the roads up to the heathland were closed on the first two planned dates, and the weather forecast for the third planned date was for very cold strong winds, so that too was cancelled, and the first survey was not carried out until 25 April.

Volunteers were asked if they could help on additional dates, to replace the cancelled surveys. Several new dates were agreed. However, in view of the poor recording conditions on several surveys in 2012, more use was made of the local weather forecast, so a planned survey could be cancelled in advance if conditions were likely to be unsuitable (rain or strong winds). In the event three new dates were arranged and then cancelled, and one of the original dates, 9 May, was also cancelled, so only two of the original planned dates were actually fulfilled.

Several surveyors were unable to come on the re-arranged dates, so a seventh date was added in an attempt to ensure that almost all Watch Points were covered twice (compared to the ideal of three times, which was largely achieved in 2012), and the final survey, on 30 May, was more than three weeks later than planned. Because of the difficulties of arranging the survey, most Watch Points were covered on only two evenings.

The actual count dates therefore did not coincide with the normal peaks of Grouse activity.

Each participant was allocated a Watch Point, and given a copy of the relevant Survey map, printed on an A4 sheet, together with a fieldwork recording sheet.

The fieldwork recording sheet is attached as Appendix 3. Participants were asked to record on the map all Grouse seen or heard, together with a number for each observation. The display flight of a territorial male often provokes a response from an immediate neighbour, often another display flight to the edge of the territory. There were several instances of two birds landing close together at the edge of their respective territories. On other occasions several birds were seen and heard concurrently, or nearly so. These are the most helpful observations in determining the boundary between territories, and participants were particularly asked to record all such events.

The time of each observation was entered on the fieldwork recording sheet, together with a description of what had been observed. The times were recorded to allow cross referencing of the same observation from adjacent Watch Points, and on some occasions to prove that concurrent records must have been due to different birds. The symbols used on the map were described in the project briefing, and they are also set out on the fieldwork recording sheet.

Participants were also requested to summarise their observations, with their own assessment of how many different territorial males they had observed.

## **Observations**

The Project organised 40 volunteers who recorded the birds seen or heard from the 67 different Watch Points on seven separate evenings. It was originally intended to record every Thursday between 4 April and 9 May. However, bad weather meant several counts were cancelled and rearranged, and a seventh count was held, as outlined above.

Fieldwork recordings were made from every Watch Point except two, but 16 had counts made on only one date, 41 had counts on two dates and only eight had counts on three dates.

It was initially hoped to cover all Watch Points at least three times, the level of coverage almost achieved in 2012, but there were insufficient participants. An attempt was therefore made to cover every Watch Point twice, but with all the cancellations and re-arrangements

this proved impossible. In addition, a few observers did not return survey maps, or did not report that they had not carried out surveys at their allocated Watch Points, so it was believed that surveys had been carried out at particular Watch Points when they had not been.

A total of 122 result sheets (96 maps with observations, plus 26 nil counts) were returned for analysis. These maps included 460 different observations of Red Grouse (some of which were concurrent observations of two or more birds). The coverage is summarised in Table 1, and compared with that of the previous two years. Coverage was less in 2013 than in either of the two previous years. While the high number of observers and survey returns in 2012 was offset by the poorer weather in that year, the number of records in 2013 was only 56% of those received for either 2011 or 2012.

**Table 1. Summary of Survey Coverage and Results 2011 - 13**

Year	2011	2012	2013
Total Number of Watchpoints	38	60	67
Number of Surveyors	48	67	40
Number of Counts	147	204	122
Average Number of Counts / Watchpoint	3.9	3.4	1.8
Number of Records	818	816	460
Average Records / Count	5.6	4.0	3.8
Counts with no Grouse recorded	12	51	26

Table 2 provides a breakdown of the results on each of the seven Survey dates in 2013. A full breakdown is attached in Appendix 5.

**Table 2. Summary of Observations of Red Grouse during 2013 Long Mynd survey.**

Survey Dates	April		May					Totals		
	25	30	2	7	16	21	30	Counts	Records	Average
Total Counts	24	23	23	18	12	12	10	122		
Counts of No Grouse	11	4	4	2	1	1	3	26		
Total Grouse Records	38	83	118	74	93	44	10		460	
Average Records per Count	1.6	3.6	5.1	4.1	7.8	3.7	1.0			3.8

## Analysis

All observations were transcribed onto master maps, using a different colour for each date.

For all parts of the area except two these were A3 blow-up versions of the A4 survey maps. On Pole Bank (part of Map 4) and around Shooting Box (part of several maps) the number of observations was so large that a double sized blow-up was used. A sample map from a previous report, showing all the observations used for analysis, is shown in Appendix 6. It shows the dashed lines between birds observed concurrently, and these dashed lines are highlighted. There were 12 such maps used altogether.

The analysis was carried out using the territorial mapping method (*Bird Census Techniques* Bibby et al 2006). This method uses concurrent observations of different birds exhibiting territorial behaviour (display flight, aggression or song). Observers were asked to record the times at which they heard calls, and this data too has been used to identify different birds calling concurrently against each other. The territory boundary passes between the positions of the males recorded concurrently. Similar observations on

different dates identify the different sides of each territory, so that clusters of observations can be grouped into a territory.

Care was taken when transcribing the observations on the survey maps onto the Master Map to join each observation of two or more birds together with dashed lines. By the rules of the territory mapping method, observations of a bird at the same position twice in three visits constitutes a territory. The difficulty with utilising this method for Red Grouse is that each territorial male has a large territory, and moves around it. A lot of the calling and display activity is at the edge of the territory, as each male competes with his neighbours, and sometimes the birds actually invade the neighbouring territory. Thus each male may be recorded several times on the same evening by participants at several nearby Watch Points; and then again, in different locations, on subsequent survey visits. This difficulty is overcome by rigorously applying one of the rules of the territory mapping methodology – the data must be interpreted to produce the minimum population estimate.

Using the concurrent observations, joined by dashed lines, to define territory boundaries, all observations can be grouped into the different territories shown in the results section.

It must be stressed that there is not necessarily any correlation between the size and shape of each territory shown on the maps with the ground that each Grouse actually occupies. Many of the Grouse recorded cannot be assigned to a territory with any degree of certainty, and the maps represent notional territories, based on those observations which locate (often very approximately) a boundary between territories.

Also, if there are no observations to establish the boundary on one side of a territory, the analysis will show one territory when in fact there are two. The population estimate calculated by this method is therefore the minimum, and there may be more.

## Results

The next eight pages each show one of the maps issued to the project fieldworkers, with all the territories on that map shown, based on the analysis described in the preceding section. (Only eight of the 12 maps are shown – the remaining four maps did not show any other territories that were not wholly on one or more of these eight)

The Watch Points are the grey numbers in circles.

All territories are numbered on each map (red, in circles), to ensure all have been counted (1 – 52). The initial numbering, in pencil, is usually faintly visible as well.

However, there were a number of records from the area south of Pole Cottage that were difficult to interpret, and it is likely that there was an additional territory there.

**The total number estimated from the Survey maps is 52 - 53 territorial males.**

## Comparison of Results with those from NT Records

Once the results were finalised, and the territories were mapped, they were compared with the casual records collected by the Trust during 2013. These records did not suggest any additional territories to those identified from the analysis of survey maps.

However, there is some evidence from roost sites to suggest that one territory shown on the maps, number 38 on Wild Moor, is probably two separate territories.

**The total population in 2013 estimated from the Survey is  
52 - 54 territorial males.**

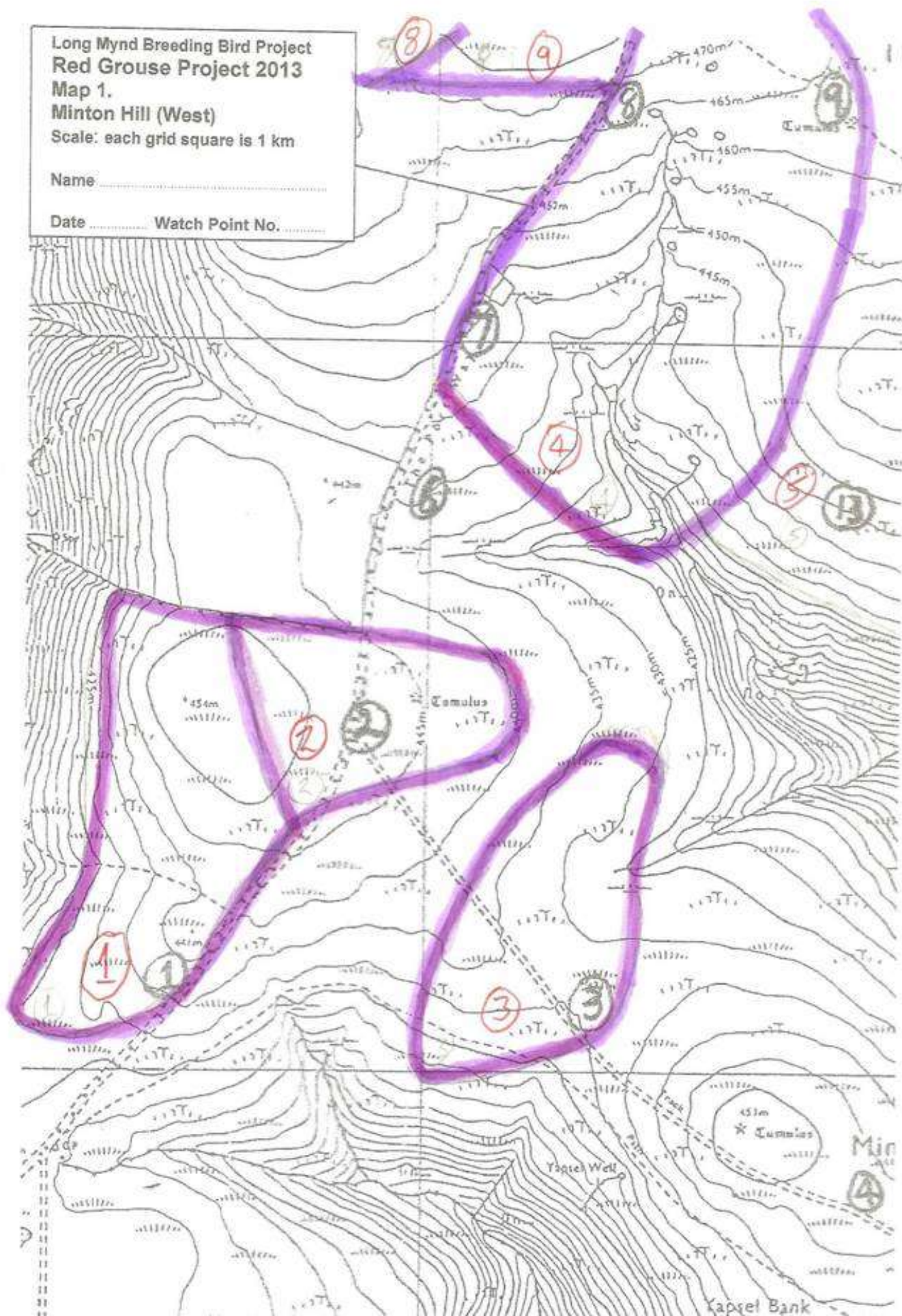


Long Mynd Breeding Bird Project  
Red Grouse Project 2013  
Map 1.  
Minton Hill (West)

Scale: each grid square is 1 km

Name .....

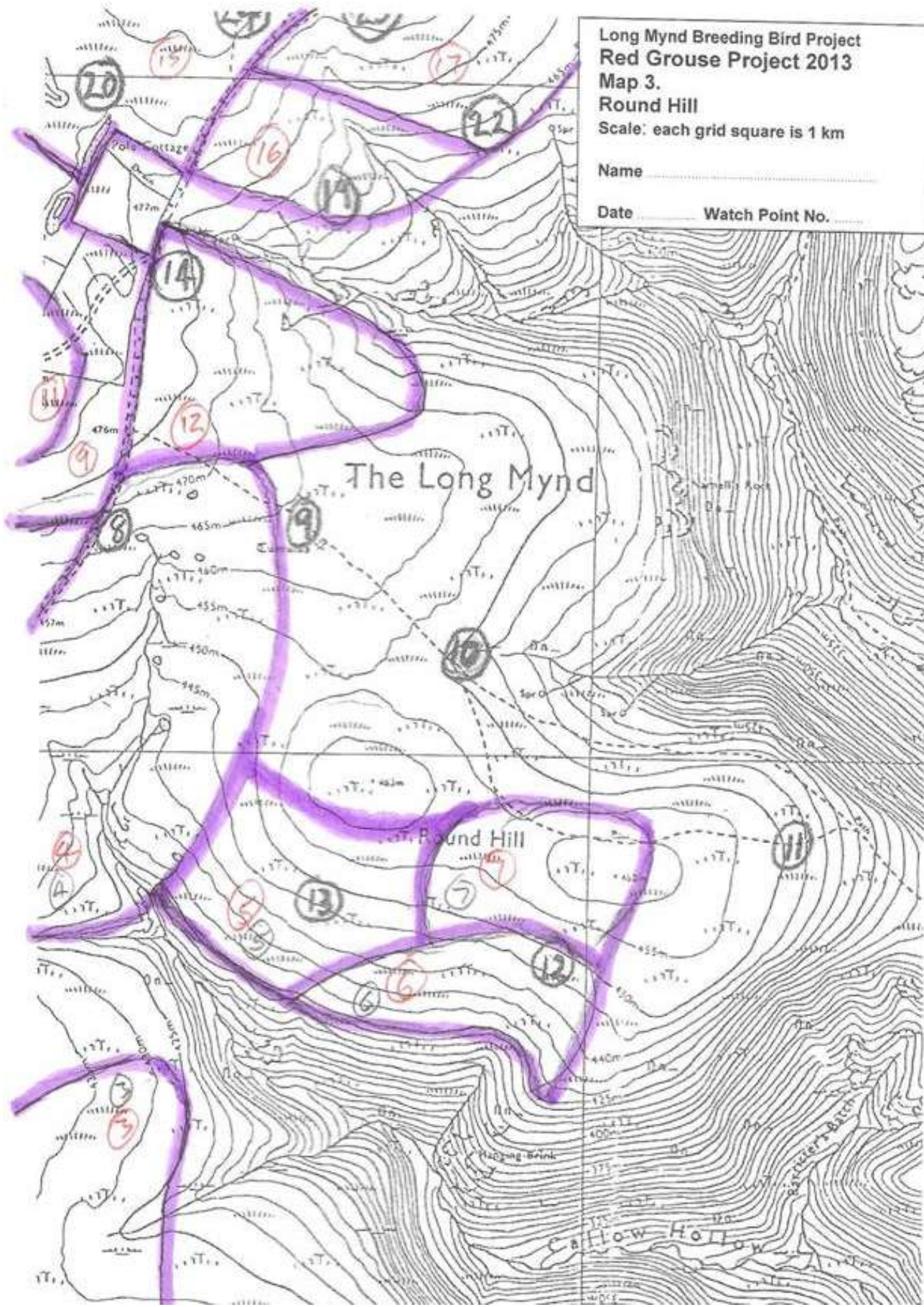
Date ..... Watch Point No. ....



Long Mynd Breeding Bird Project  
Red Grouse Project 2013  
Map 3.  
Round Hill  
Scale: each grid square is 1 km

Name .....

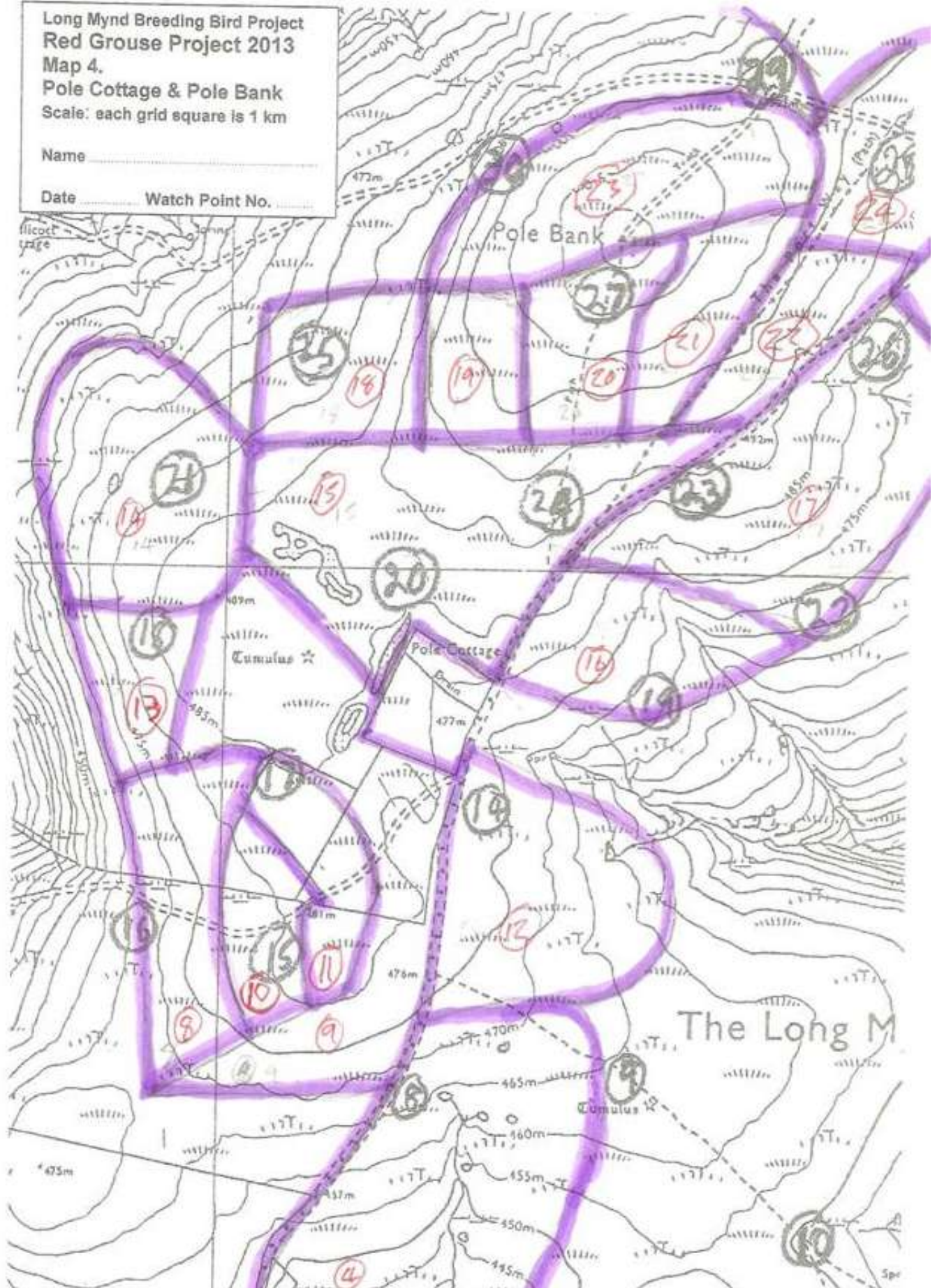
Date ..... Watch Point No. ....

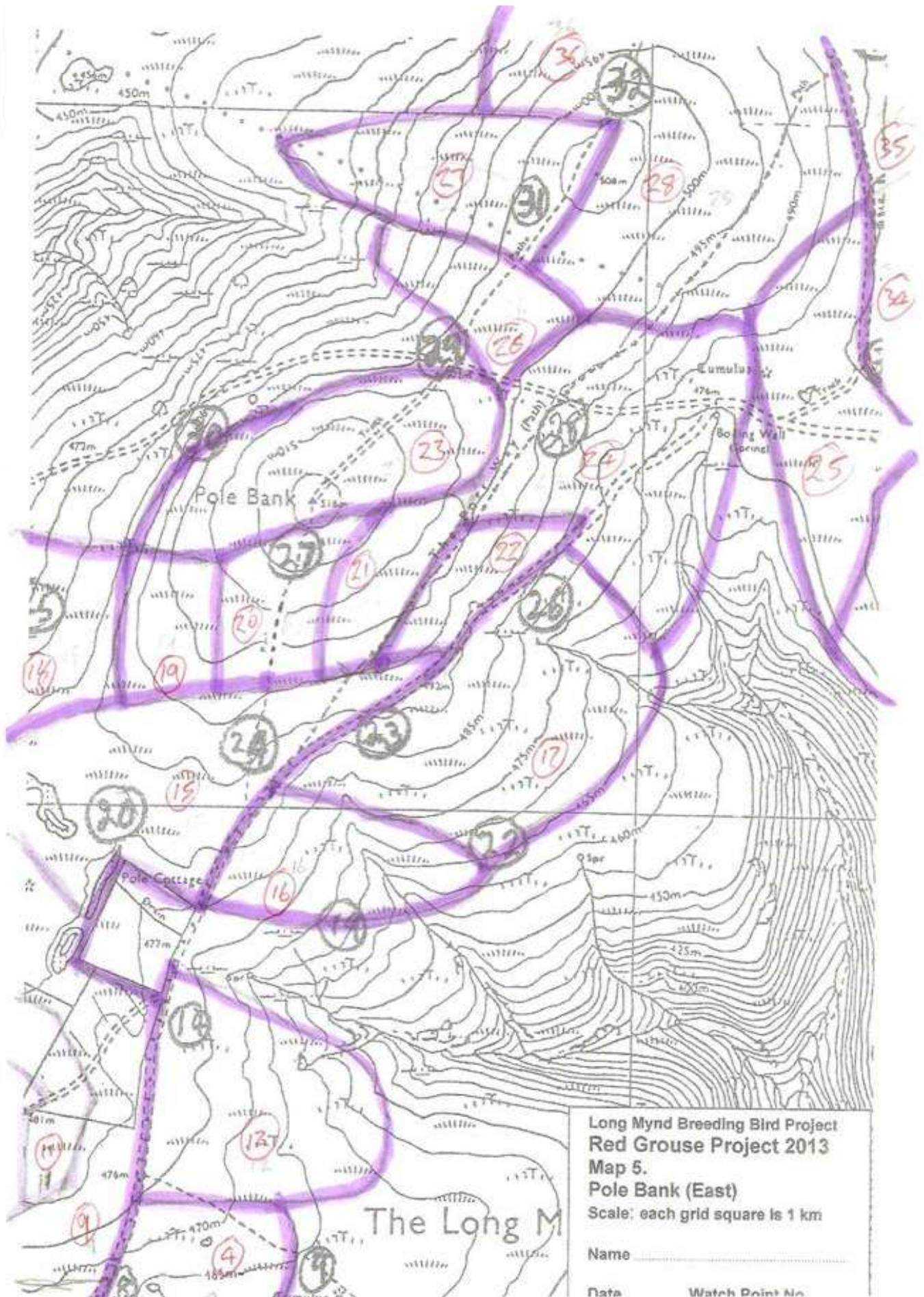


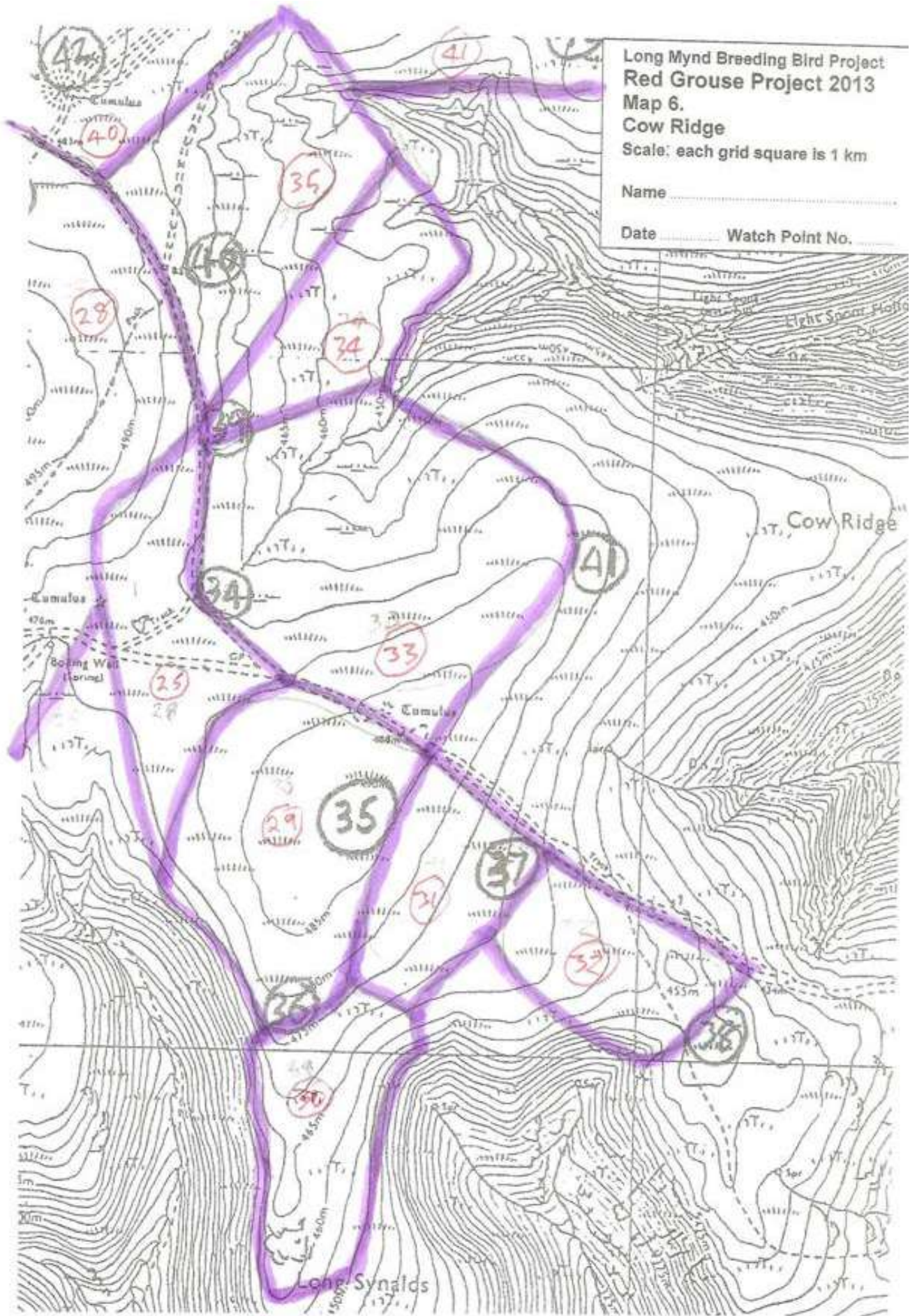
Long Mynd Breeding Bird Project  
Red Grouse Project 2013  
Map 4.  
Pole Cottage & Pole Bank  
Scale: each grid square is 1 km

Name .....

Date ..... Watch Point No. ....



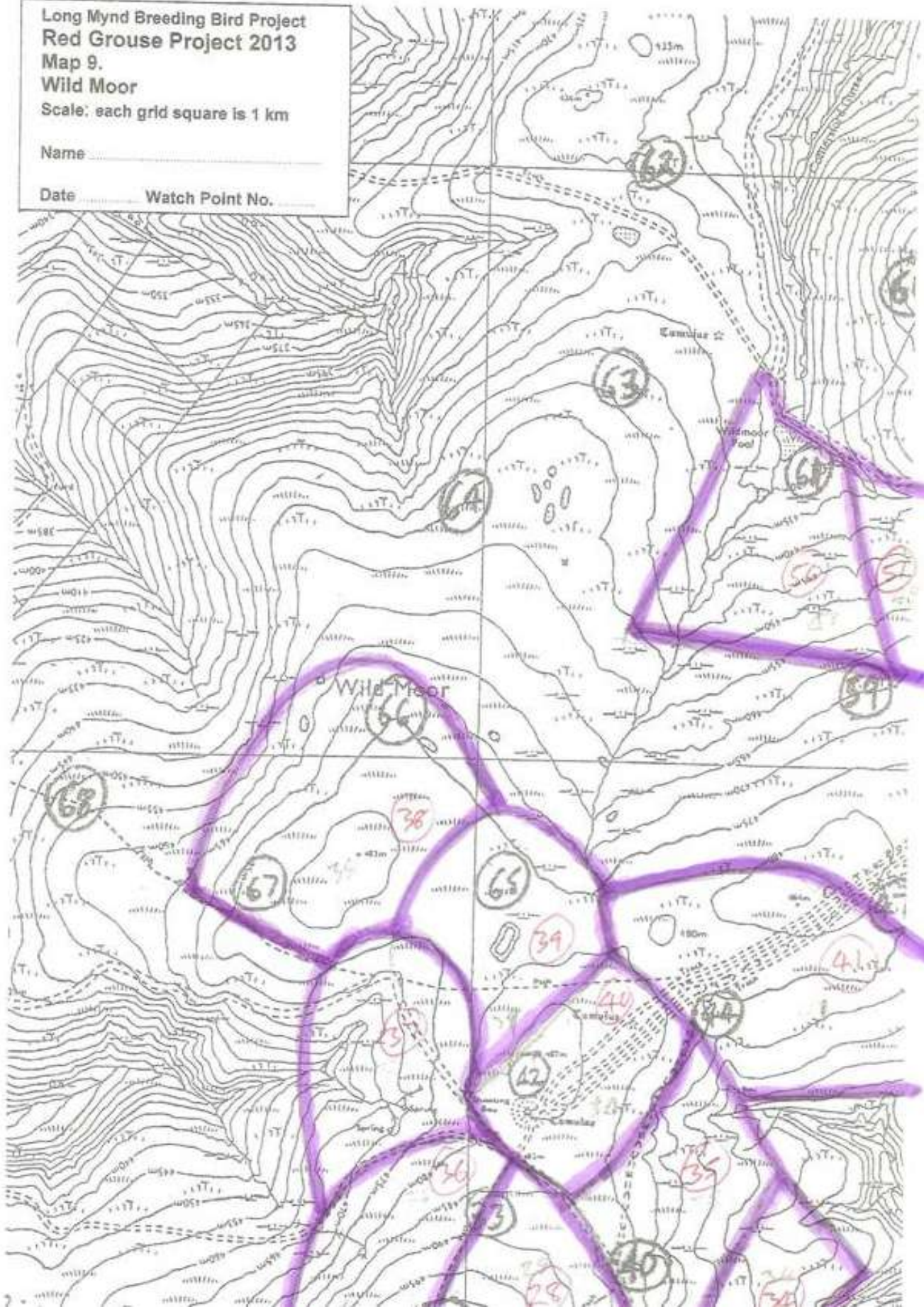




Long Mynd Breeding Bird Project  
Red Grouse Project 2013  
Map 9.  
Wild Moor  
Scale: each grid square is 1 km

Name .....

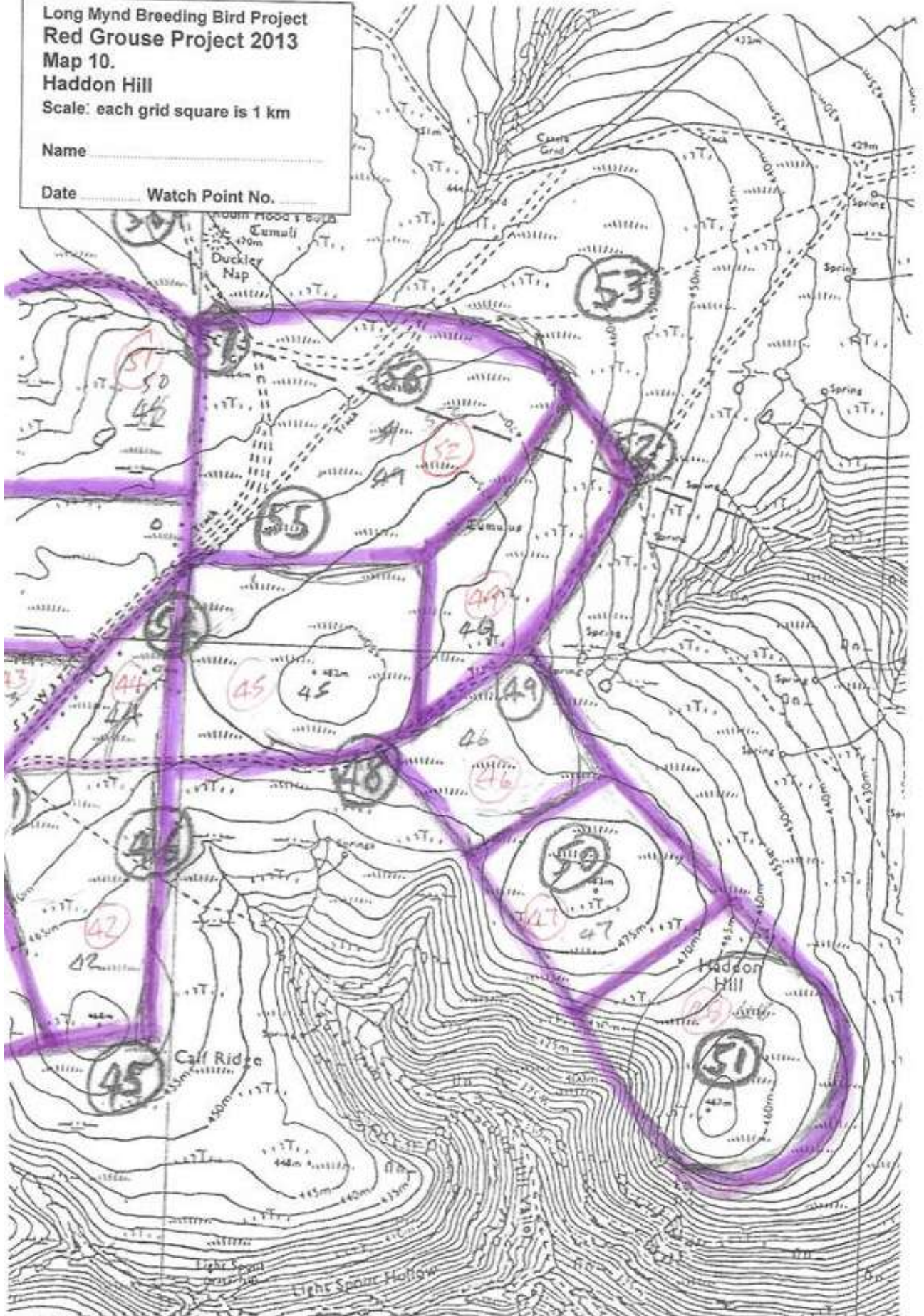
Date ..... Watch Point No. ....



Long Mynd Breeding Bird Project  
Red Grouse Project 2013  
Map 10.  
Haddon Hill  
Scale: each grid square is 1 km

Name .....

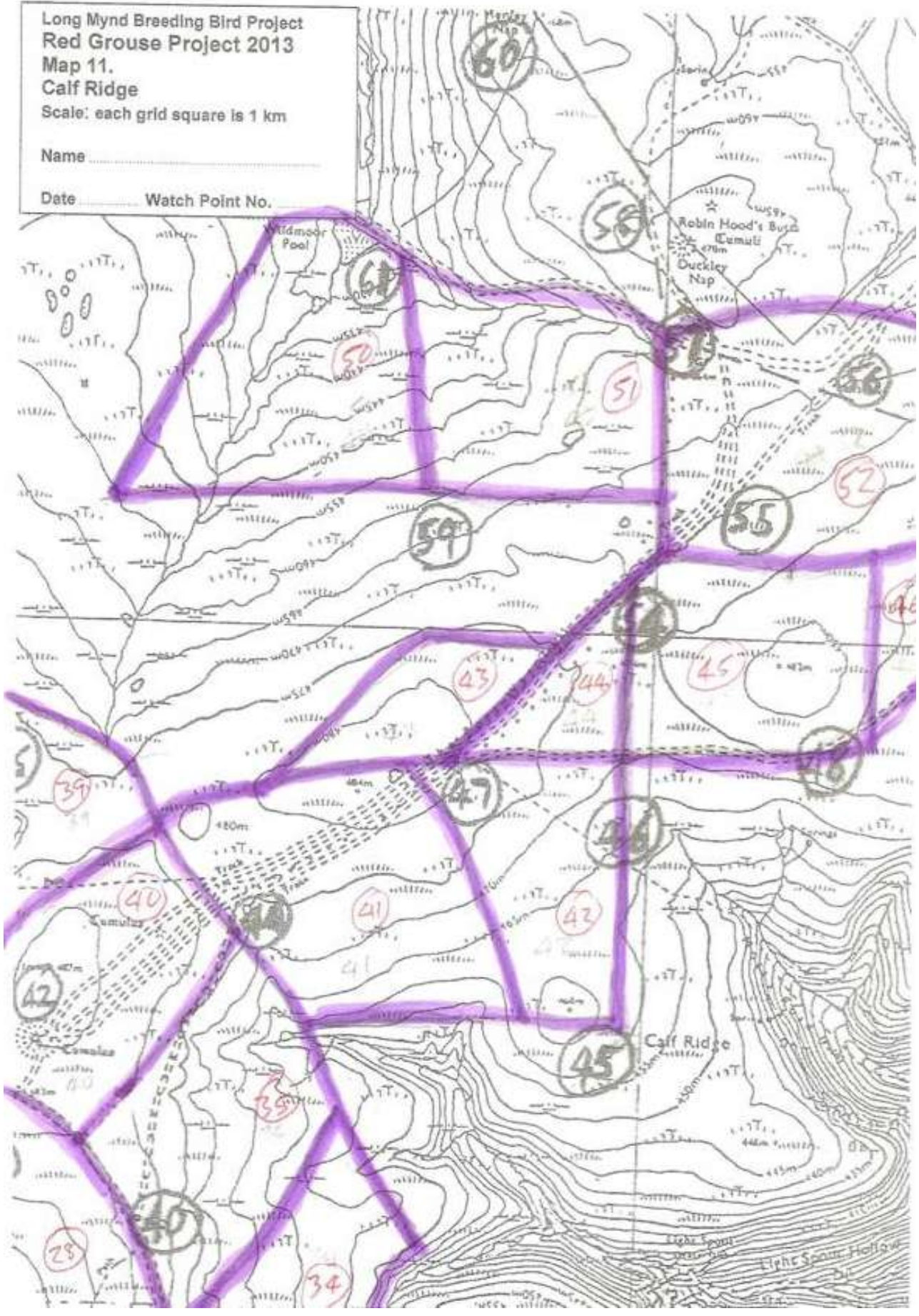
Date ..... Watch Point No. ....



Long Mynd Breeding Bird Project  
Red Grouse Project 2013  
Map 11.  
Calf Ridge  
Scale: each grid square is 1 km

Name .....

Date ..... Watch Point No. ....





## Recording Conditions

The activity levels of the Grouse, and the likelihood of them being observed and recorded, vary according to the weather conditions. Although conditions may vary across the whole plateau, so they were not the same at every Watch Point, in general they were good on four of the seven # of the survey dates. In summary, the conditions during the survey periods were:-

25 April: Light wind, cloudy, cold. Good visibility.

30 April: Very slight breeze, cloud <33%, 9 degrees. Good visibility and hearing conditions

2 May: Cloudless, still, warm (14 degrees). Good visibility and hearing conditions

7 May: Light breeze from East, blue sky with high wispy cloud, warm. Good visibility and hearing conditions

16 May: Very light breeze from north-east, 50% cloud (high), 12 degrees. Very good visibility and hearing conditions

21 May: Light wind, cloudy. Good visibility.

30 May: Not recorded, OK.

The cancellation of several planned surveys because of forecast bad weather meant that, in general, conditions were relatively good on all dates, but the period over which the counts were conducted was much longer than planned.

## Comparison with 2011 and 2012 Recording Conditions.

In 2011, there was no rain on any evening that the survey was conducted, although some of the evenings were quite windy. The total number of record sheets submitted was 147, containing 818 records. The average number of Grouse records per sheet was 5.66. No Grouse at all were recorded on only 12 (8.2%) record sheets.

In 2012, conditions on the first two dates were reasonably good (good visibility, slight breeze, no rain), on the third date conditions during the actual survey period were also reasonable, but heavy rain all day depressed Grouse activity. There was rain, mist and wind on the three final dates. The total number of record sheets submitted was 204, containing 816 records. The average number of Grouse records per sheet was 4.0. No Grouse at all were recorded on 51 (23.9%) record sheets. The poor weather meant that, although there were far more counts than in 2011, the number of records was virtually the same.

## Peak Grouse Activity

The 2012 survey started two weeks earlier than in 2011, because the level of observed activity reached a peak at the end of April, and then declined considerably.

A similar timetable was planned for 2013, but the actual event was substantially different.

Table 3 shows the average number of Grouse records per survey sheet for all the survey dates over the three years of the project, in Calendar Order. It will be seen that the count on the first date in 2013 was the lowest ever recorded, and (discounting 2012, when the later counts were all disrupted by bad weather), the peak count in 2013 was two – three weeks later than in 2011, but the highest ever recorded.

The weather on the first count was certainly no worse than on evenings when there was a good level of Grouse activity, in this and previous years, so it is possible that establishing territories was delayed by over three weeks by the heavy snowfall and cold windy weather at the start of the season, and the whole breeding timetable was delayed by two - three weeks.

However, the nearby Stiperstones suffered the same weather, but there is clearer evidence there on whether the breeding season was delayed. The NNR conduct a Grouse survey in August, to count the total number of birds (including juveniles), to assess breeding success. The juveniles are not fully grown when this count is carried out. The 2013 survey was conducted at the same time as those in previous years, but the young birds found were the same size and age as normal, suggesting that the bad weather did not in fact delay the breeding season (Simon Cooter, Cassy Clayton, *pers.comm.*).

The average number of records per count on Long Mynd in 2013 was the lowest for the three years, in spite of four of the six counts being disrupted by bad weather in 2012, so it is likely that the level of activity in 2013 was lower than in previous years. This may be because there were fewer to count, due to birds not coming into breeding condition because of the unusually late bad weather at the start of the season, or high mortality.

However, the evidence from the Stiperstones suggests that the birds kept to their normal timetable, perhaps not surprising as Grouse are restricted to upland heathland, and breed up to the far north of Scotland, where conditions will often be as bad or worse as they were here. The apparent decline may therefore be a reflection of the disruption to human ability to carry out the monitoring, rather than a reduction in the number of Grouse.

Hopefully the 2014 count will provide some evidence, one way or the other

**Table 3. Average number of Grouse records per survey sheet**

Year	March	April								May								Average		
	29	12	14	19	21	25	26	28	30	2	3	5	7	10	12	16	19		21	30
2011		6.1		6.3		7.3				5.0		5.2		2.9						5.6
2012	6.0	5.9	3.0		1.7				3.9		1.9								4.0	
2013				1.6		3.6		5.1		4.1		7.8		3.7		1.0				3.8

## Distribution of Territories and Heather Management areas

There are approximately 700 hectares of heather dominated heathland owned and managed by the National Trust on Long Mynd. Of this area, approximately 60% is targeted for active management by burning or cutting on a long rotation (a planned cycle of around 16 years). Since 2001, approximately 160ha of heather have been cut or burnt in scattered patches. This is done primarily to add structural diversity to the heathland whilst maintaining heather as the dominant species. It benefits a range of wildlife species, but in particular the Red Grouse. The young areas of heather resulting from the management are also more accessible and nutritious to livestock than the old heather. The remaining 40% of heather dominated heathland is left as 'non-intervention' to support less mobile species which may be negatively affected by burning or cutting.

All the territories shown on the maps on pages 5 -12 have been input into the National Trust's GIS system, *Map Info*, to produce a summary Map 9, as shown on page 16. This map also shows the contours, and confirms that the Red Grouse only inhabit the relatively flat plateau.

Map 10 shows the results for 2012, to facilitate comparison.

Map 11 shows all areas of heather, and the areas where management has been carried out since 2001.

Map 12 overlays the 2013 Territories Map onto a Heather Management map.

It will be seen that some areas which have been managed recently, and have short heather, should be good for Grouse e.g. the north end of Wild Moor, but none were found there. Conversely, some apparently 'unsuitable' areas where there has been no management do have Grouse, such as south-west of Pole Cottage (not NT land).

## **Comparison of Results with 2012 Results**

The results are summarised in Map 9, and a direct comparison can be made with the 2012 results in Map 10.

Comparison of the number of territories found each year in the main range is difficult, as the maps are a product of the methodology, rather than a reflection of the actual area occupied by each Grouse.

However, the number of territories found on the edge of the core area grew in 2012, reflecting the continued growth in the population since 1994.

The apparently reduced population found by the 2013 survey is reflected mainly in the disappearance of many of the territories on the edge of the range. If the population has really declined, then contraction of the range is likely. However, birds occupying such territories are likely to be less active, as they have fewer neighbours to compete with (display against) so they are more likely to be overlooked.

More positively, it appears that a recent burn (2009) has allowed the creation of one or two new territories on Haddon Hill, where no Grouse were found last year.

In general most territories have some area of short heather in them. It appears that the heather management being carried out by the Trust is continuing to benefit Red Grouse.

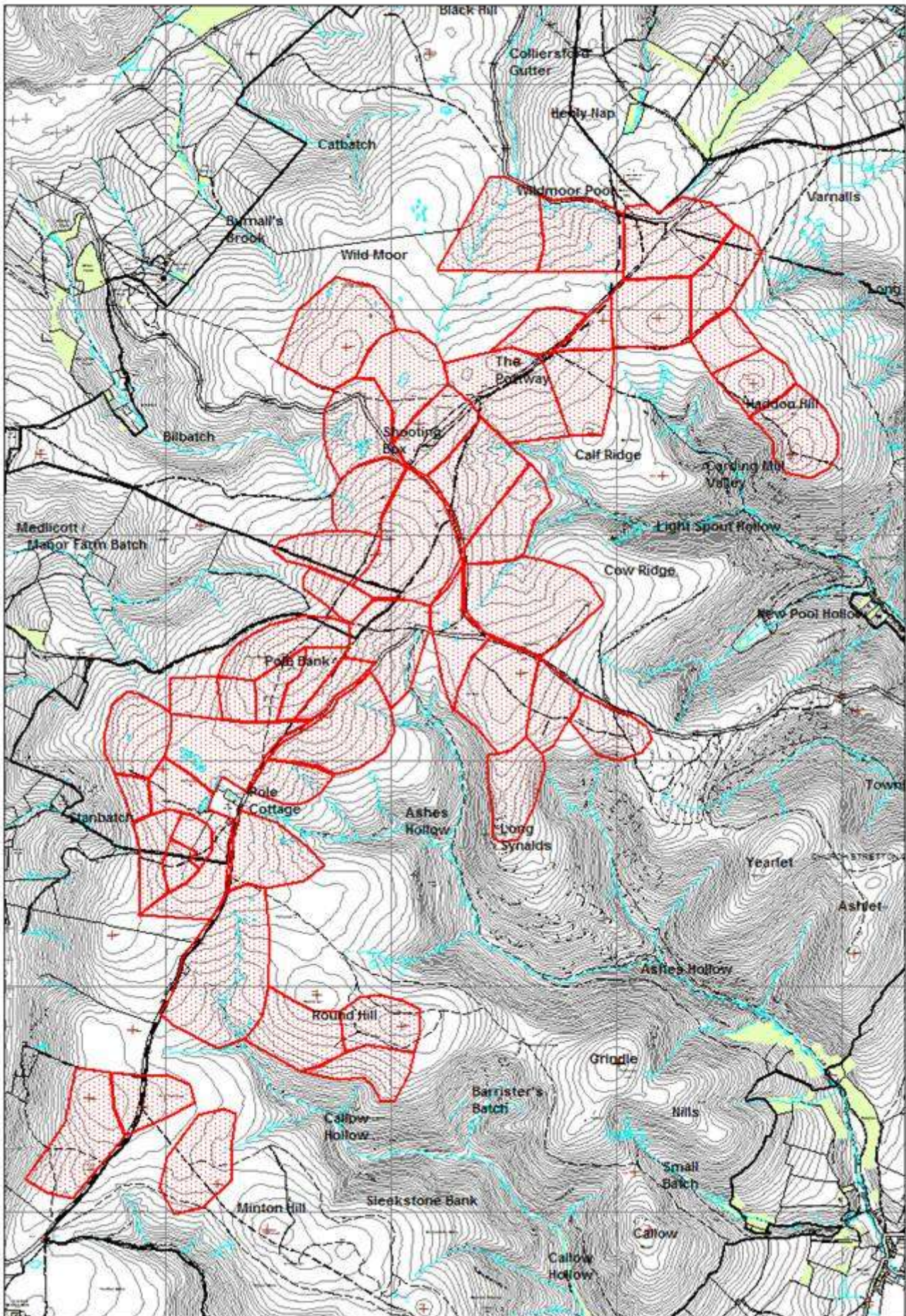
It is possible that some of the recently managed areas of heather have not yet had sufficient time to regenerate to suitable conditions. Some additional Watch Points were added to the 2012 survey to monitor such areas, and potential new areas should also be monitored in future years.

## **Notes of Caution**

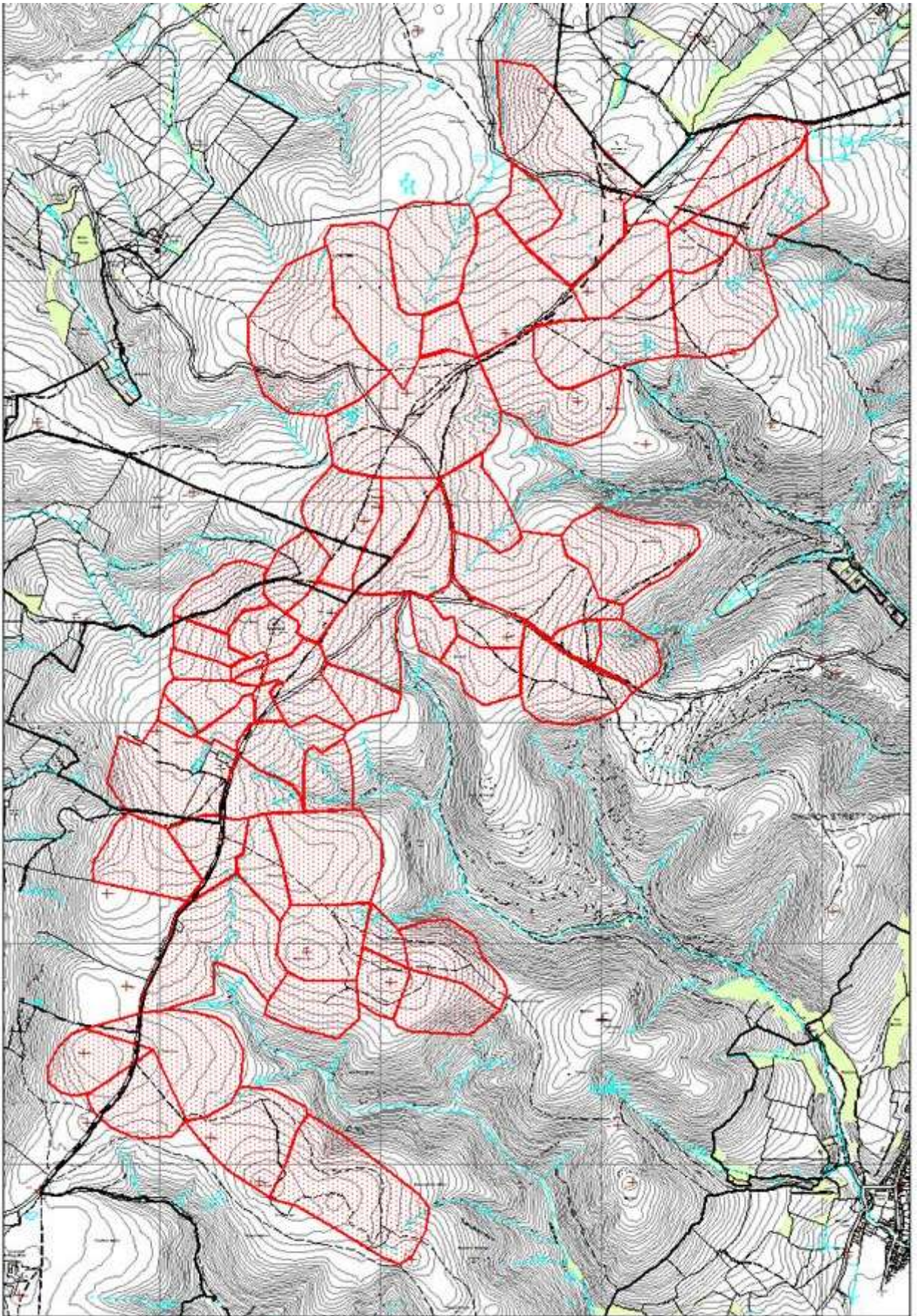
In 2011, the survey produced a more accurate (and higher) population estimate than that obtained by the three counts made at dawn by National Trust staff and volunteers in the preceding winter. The large number of participants, with systematic coverage of the whole of the Long Mynd over six separate evenings, produced excellent results. However, the Report listed seven notes of caution, some of which were addressed by changes in the methodology in 2012, but some of them still applied this year.

In 2012, there were more participants and more Watch Points, but the weather was very poor on three of the six evenings, and reasonably good weather during the survey period was preceded by heavy rain all day on a fourth evening. As a result, there were considerably more survey returns with no Grouse recorded (51, compared with 12 in 2011) and the number of survey returns with Grouse recorded was virtually identical in the two years (818 in 2011, and 816 in 2012), in spite of a big increase in the number of observers and survey returns (37 & 147 respectively in 2011, compared with 68 & 204 in 2012). Although most Watch Points were covered three times or more in 2012, in practice the poor weather limited the effectiveness of some of these counts, so several more Watch Points had less than three effective counts. The poor survey conditions limited the number of occasions when two or more displaying males were recorded concurrently. Such observations are crucial for locating territory boundaries, so it is possible that there are two males in some of the larger "territories", as no observations were made during the surveys to separate them.

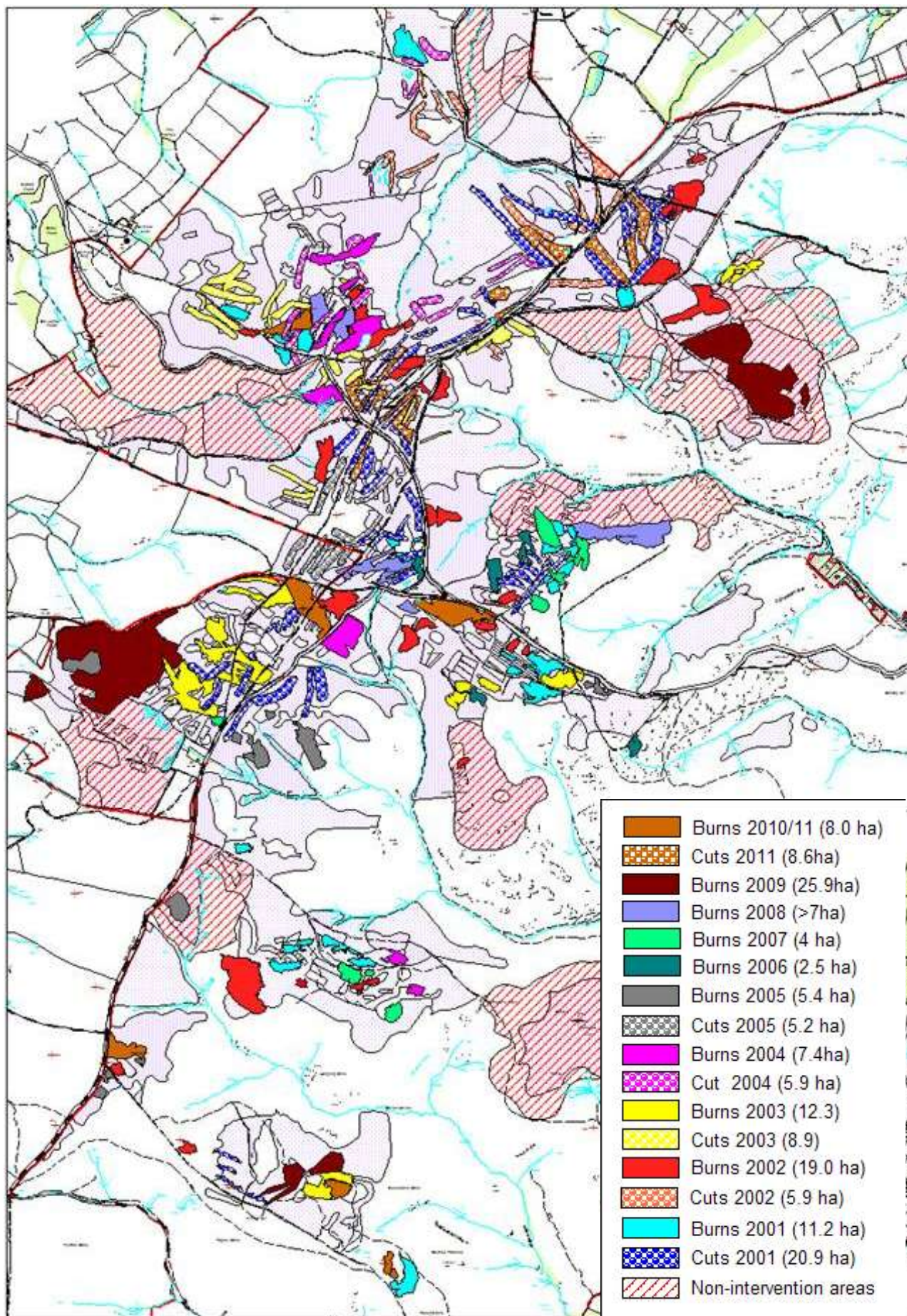
Map 9. Summary Map (with contours) – All Territories 2013



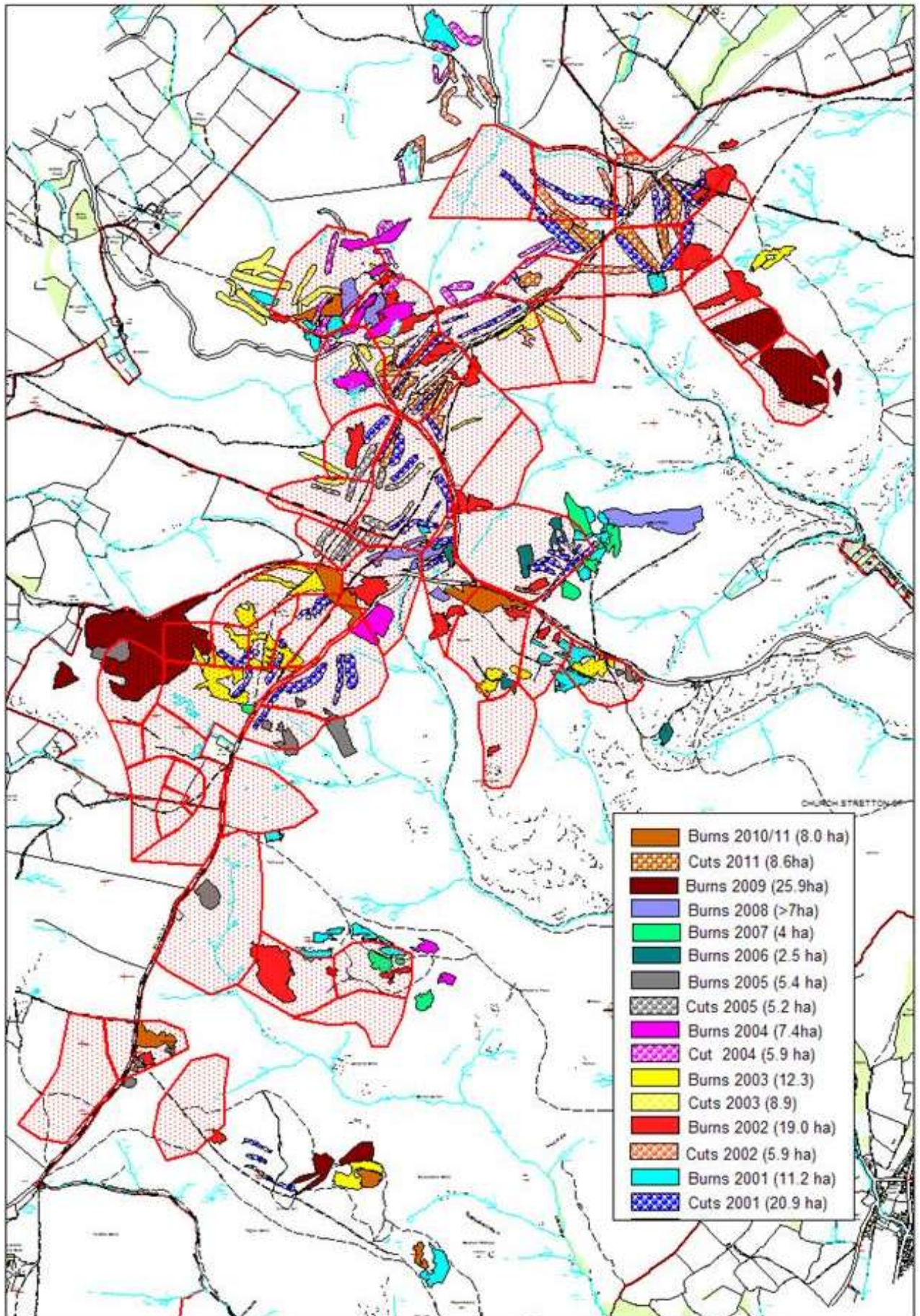
Map 10. Summary Map (with contours) – All Territories 2012



Map 11. Heather Management Areas 2001 - 12



Map 12. Grouse Territories 2013 overlain on Heather Management Areas 2001-12



In 2013, to try and limit the number of counts affected by bad weather, use was made of the five day local weather forecast, and planned counts were cancelled if rain or strong winds were forecast. This resulted in an extended survey period which may not have coincided with the peak territorial activity of the Grouse. It also resulted in a lower turnout of surveyors, who had other commitments on the substitute days. Together with the reduced number of volunteers, this meant most watch Points were covered only twice, and some were only covered once. There are a number of territories that were occupied in 2012 that were apparently unoccupied in 2013. This may be a real loss, because of the unusually bad weather at the start of the breeding season, but some of the apparent loss may be due to Grouse being inactive when the relevant Watch Points were visited (which happened on fewer occasions than planned).

Comparison of the 2013 territories Map with that for 2012 shows that several territories on the eastern edge of the range were apparently unoccupied in 2013. The result should therefore be taken as the minimum number of territories, and there may be more. The survey in 2014 should give priority to these areas.

In addition, it should be noted that:-

1. Every effort was made to select Watch Points with a good field of view (some new Watch Points were added in the light of experience in 2011, and seven more were added in 2013), and participants were asked to move slightly if they could obtain a better field of view in the vicinity of the Watch Point, rather than at it. Even so, some Watch Points, particularly those on the hilltops, had fairly restricted fields of view. Observations from these Watch Points were generally of calls, rather than of seen birds, with some resulting inaccuracy in the mapping.
2. There were Watch Points within hearing range of all places where Grouse had been seen prior to the start of the Survey, and the Heather Management map on page 18 shows some areas which should be suitable for Grouse, but where none were found. Grouse may perhaps have been overlooked there, and these areas should be monitored thoroughly in future years.
3. Concurrent records of the same observation from different Watch Points would not necessarily have mapped the observation in the same position. This is particularly true for observations of calls heard faintly in the distance.
4. Although the scale of the maps provided to participants was larger than in 2011, there were still a few occasions where the scale was too small – the observations could not all be clearly differentiated.
5. Participants' experience of Red Grouse, and their experience of bird watching generally, varied tremendously. Some may have missed birds, and / or were not confident enough to summarise their observations into the number of definitely different and probably different males.

However, inaccurate mapping of observations did not present any apparent problems during the analysis, and concurrent observation of (or hearing) adjacent males usually included one made from the nearest Watch Point, which was presumably reasonably accurate. Therefore the potential limitations of the survey methodology do not appear to be reflected in the results.

## **Considerations for the Future**

The method has generally produced excellent results, although the 2013 survey was less thorough than in the previous two years, and it will be repeated annually to monitor the possible increase of the Red Grouse population on the Long Mynd.



As a result of lessons to date:-

1. Stronger encouragement will be given to observers in 2014 to summarise their observations, so they record which observations relate to each bird, and which are definitely different birds.
2. Observers will again be requested to notify the organisers if they do not carry out a survey at a Watch Point they have been allocated.

## Red Grouse Elsewhere in Shropshire

Apart from The Long Mynd, the only other established population of Red Grouse elsewhere in Shropshire is on The Stiperstones. Details of monitoring results there are shown in Annexe 2. The population in 2013 was estimated at 18 - 21 territorial males, compared to 18 in 2012 and 11 in 2011.

Red Grouse used to breed on Brown Clee (five pairs in 1989 - *Atlas 1992*), but none have done so there since the mid 1990s, and there are none there currently (information from the Game Keeper in 2011, via Gareth Thomas, *pers.comm.*).

They have also bred on Heath Mynd in the past, but attempts to reintroduce them there have not been successful (Neil Wainwright, *pers.comm.*).

## Other Species

Participants also recorded Golden Plover, Curlew, Kestrel, Buzzard, Whinchat, Grasshopper Warbler, Raven and Reed Bunting, and other more common species.

## Acknowledgements and Distribution

Most importantly, thanks to the 40 individuals who participated in the Project, and submitted survey maps:

John Arnfield	Richard Halahan	Dave Pearce
Steve Baker	Trevor Halsey	Steve Rooney
John Bent	Heather & John	Sue Rooney
Lesley Brown	Hathaway	Simon Sholl
Mick Burman	Pat & Graham Holbourn-	Mike & Jo Shurmer
Chris Cooke	Williams	Mike Sillence
Sylvia Davidson	David Holmes	Leo Smith
Hannah Farley	Keith & Val Hotchkiss	Jenny Steel
Bernard & Jane Ford	Malcolm Loft	Caroline Uff
Julian French	Anna McCann	Heather Williams
Steve & Barbara Gillian	Andrew Middleton	John Worrell
Helen Griffiths	Josie Owen	Colin Wright

Thanks also to Caroline Uff, National Trust Ecologist, for providing the results of previous monitoring of Red Grouse on The Long Mynd, information about the Heather Management policy, and the maps from the Trust's GIS system.

The data in Annexe 2 has been extracted from the monthly Notes on the Hill, prepared by Simon Cooter, Stiperstones NNR Site Manager

The photograph on the cover is © Jenny Steel. Thanks to her for permission to use it.

Electronic versions (.pdf format) of this Report have been supplied to all the participants.

A paper copy has been supplied to the National Trust, together with all the fieldwork observations and analysis.

Further copies can be supplied on request by the Long Mynd Breeding Bird Project  
c/o The Bryn, Castle Hill, All Stretton SY6 6JP (01694 720296 leo@leosmith.org.uk).

## **Summary and Conclusion**

**The total estimated population of Red Grouse in Shropshire in 2013 is therefore at least 70 – 75 territorial males (compared to 81 - 84 in 2012), of which around three-quarters are on The Long Mynd.**

**It appears that the heather management being carried out by the National Trust is continuing to benefit Red Grouse.**

Leo Smith  
Long Mynd Breeding Bird Project  
January 2014

## Appendix 1. Project Recruiting Leaflet (size reduced)



# Red Grouse Survey 2013

### Introduction

For the last two years, the Red Grouse population on the Long Mynd has been counted by the co-ordinated efforts of volunteers at dusk on each of six evenings between late March and early May. Volunteers included participants on the National Trust *Introduction to Bird Watching* courses, members of the local SOS, SWT and RSPB groups, National Trust Volunteers and members of the Strettons Area Community Wildlife Group, as well as other people interested in birds. There were 37 volunteers in 2011, and 70 in 2012.

This project has been very successful, and is being repeated in 2013. The Strettons Area Community Wildlife Group is leading the project.

We want to recruit as many helpers as possible for the 2013 survey. Counts will be held on six successive Thursdays in April and early May. Please come to as many counts as you can.

### Method

Pairs are secretive in the breeding season, and stay in the deep heather, so they are difficult to count. However, territorial males display around sunset. Most territories are within sight and hearing distance of the road along the top, between the Gliding Station and the Shooting Box car park. The display flight is noisy, conspicuous and unmistakable, and can be observed over long distances, so this is a suitable project for anyone interested in birds or conservation. No special knowledge or skills are needed.

A number of Watch Points on or near the road will be marked on large scale Ordnance Survey maps. Each participant will be allocated a Watch Point, and go to it around one and a half hours before sunset, and stay there until about 15 minutes after sunset. The location and activity of all Grouse seen or heard will be marked on a map (recording instructions and a map will be provided). A population estimate can be made by collating all the observations.

The methodology is very straightforward, and will be explained at the Briefing Meeting for participants. People who miss the Briefing, and need an explanation, can meet at the Pole Cottage car park at the appropriate Start Times.

New participants can receive "on the job" training on the first date they attend, rather than go to a Watch Point on their own, if they want.

So far as possible, Watch Points will be allocated by email the day before, so participants can go straight there instead of going to Pole Cottage.

### Project Briefing & Methodology

7.30pm – 8.30pm Thursday 21<sup>st</sup> March 2013

Carding Mill Valley Tea Room (Refreshments provided)

### Observation Dates (All Thursdays) and times

Sunset is about 7.50pm on the first date, and gets later by 15 minutes per week

- 6.20pm, 4<sup>th</sup> April
- 6.30pm, 11<sup>th</sup> April
- 6.45pm, 18<sup>th</sup> April
- 7.00pm, 25<sup>th</sup> April
- 7.10pm, 2<sup>nd</sup> May
- 7.20pm, 9<sup>th</sup> May

**Participants can go straight to their allocated Watch Point, or meet at Pole Cottage Car Park (OS Grid Reference SO413937), at the stated Start Time, or meet at Carding Mill Valley Tea Room half an hour earlier for a lift up.**

**N.B. Lifts must be booked in advance. Arrangements will be announced at the Briefing.**

### **Participant Form**

To enable us to plan the survey, every participant will be asked at the briefing to complete a form, indicating which of the Observation dates they can attend, and contact details. People who have helped before, and who do not wish to attend the briefing, should request a form by email, and return it by Friday 22<sup>nd</sup> March.

### **Weather Warning**

It can get very cold at sunset on the top, and it may be wet, so please bring plenty of warm and weatherproof clothing.

### **Why Count Red Grouse?**

The Long Mynd holds most of the Shropshire population. Numbers were considerably higher than they are now, but they appear to be recovering as a result of the heather management carried out by the National Trust. This project helps the Trust assess the effectiveness of the heather management by providing annual population estimates.

Adding these estimates to the numbers counted on The Stiperstones provides a count of the total Shropshire population.

The Species was added to the *Amber List of Birds of Conservation Concern* in the 2009 review, as the population is dwindling across the Country as a whole. The Shropshire population is the most southerly in England, apart from a few on Dartmoor. The Exmoor population has recently died out. Monitoring the population is therefore important nationally as well as locally.

The usual survey method involves mapping territorial displaying males on several dawn visits in spring, and analysing the comparative results (the "Territory Mapping Method"). The Long Mynd is a large area, and the National Trust had difficulty organising three dawn counts between December and February each year (poor weather, and not enough helpers). This project method produced better results than the previous NT dawn counts in 2011, so it replaced them in 2012. It is continuing in 2013, and it is hoped to repeat the project each year, to provide on-going monitoring of the Red Grouse population on the Long Mynd.

A copy of the 2012 Survey Report has been supplied to everyone who participated last year. New participants can download it from the Community Wildlife Group website, [www.ShropsCWGs.co.uk](http://www.ShropsCWGs.co.uk).

### **Other Bird Species**

In the last two years, some participants have been lucky enough to see or hear Hobby, Merlin, Peregrine, Hen Harrier, Short-eared Owl, Curlew, Snipe, Golden Plover, Cuckoo, Stonechat and Grasshopper Warbler, as well as some of the more common species. As an optional extra, participants are requested to record any Curlew, Snipe or Grasshopper Warbler they see or hear, if possible.

### **Bird monitoring on the Long Mynd**

The project will be part of the bird monitoring on the Long Mynd carried out for the National Trust as part of their Environmental Stewardship Higher Level Scheme Agreement with Natural England, which is co-ordinated by *Leo Smith Ornithological Surveys and Consultancy*

### **Further Information**

Leo Smith  
01694 720296  
[leo@leosmith.org.uk](mailto:leo@leosmith.org.uk)

Leo Smith

January 2013

## **Appendix 2. Project Briefing Note (size reduced)**

### **Strettons Area Community Wildlife Group & Long Mynd Breeding Bird Project Estimating the Red Grouse Population on the Long Mynd Project Briefing 2013**

#### **Complete the Participant Details Sheet**

Which dates can you come? (Extremely helpful for our planning)

Are you willing to cover a Watch Point on a main footpath, or on the open heath, rather than on the road?

Training is available in the field, if you want it, on the first evening you are able to attend.

N.B. Mobile Phone Number is important, if you have one. We will give it out to other participants, partly so you can confer with adjacent observers, and partly for health and safety reasons.

We will endeavour to provide lifts from Carding Mill Valley to Pole Cottage for those that want them, but that is conditional on other people being willing to offer them, and on someone organising it all. If you want a lift, or can offer lifts, please complete the relevant parts of the Participant Details form.

#### **Observation Dates (All Thursdays) and times**

Sunset is about 7.50pm on the first date, and gets later by 15 minutes per week

- |                                  |                                  |                               |
|----------------------------------|----------------------------------|-------------------------------|
| • 6.20pm, 4 <sup>th</sup> April  | • 6.45pm, 18 <sup>th</sup> April | • 7.10pm, 2 <sup>nd</sup> May |
| • 6.30pm, 11 <sup>th</sup> April | • 7.00pm, 25 <sup>th</sup> April | • 7.20pm, 9 <sup>th</sup> May |

#### **Watch Points**

The survey will be carried out by watching and listening from a series of pre-determined Watch Points. All Watch Points are marked on the survey map which will be issued to you. You will be allocated a Watch Point number on each evening you have told us you can come on the Participants Form. Watch Point numbers and survey Maps will be sent out by email by Wednesday afternoon. Go directly to your Watch Point by the Start Time for that date. Otherwise meet at Pole Cottage Car Park (OS Grid Reference SO413937), or meet just east of the Carding Mill Valley Tea Room (by the staff car park) half an hour earlier if you've booked a lift up. N.B. Lifts must be booked in advance.

The Watch Points have been selected to give a good field of view over places where Grouse have been recorded before. At some Watch Points, note the contour lines on the map around the Watch Point to determine the direction you should be looking. They are not necessarily at the highest point, as that may offer a poor field of view. Use your discretion on where to stand / patrol – maximise your field of view. Stepping up onto the bank next to the road / path may provide a much better view.

If there is a particular hot-spot of Grouse activity, you may wish to leave the Watch Point to investigate. Be careful on rough terrain!

You don't need to stand still for the whole period (you'll need to keep warm!), but please spend almost all of your survey time within 50 metres of the Point marked on the map.

If possible, stay at the Watch Point until 15 minutes after sunset (but make sure you can get back to your car in daylight, if you don't have a torch).

#### **Change of Plans**

If you've said you're coming, but find you can't, please leave a message 07791 901732.

If you've requested a lift up from Carding Mill Valley, or offered to provide lifts for other people, you will be provided with a different number to ring.

**N.B. If you are allocated a Watch Point on any date, but you cannot get there, for whatever reason, please email or phone Leo Smith the following day.** This is essential in planning subsequent surveys, as we aim to cover each Watch Point three times, and if you don't tell us your Watch Point wasn't covered, we'll assume that it has been.

#### **Estimating Distance**

It is important that your observations are mapped as accurately as possible. Use the features on the map (especially the contours) to determine locations. If you aren't familiar with the terrain, or estimating distances, you may want to pace out 100 metres before you start to help you to estimating distance

#### **What to Record on the Site Visits**

Name, Date & Watching Point Number

Start Time and Finish Time at Watch Point

Mark your observations on your Survey Map as accurately as possible, particularly the landing point at the end of the Display Flight. Number each observation.

Use the symbols below (they are all reproduced on the Fieldwork Record sheet).

The most useful observations are of two birds seen or heard concurrently. Therefore using the dotted line, to distinguish two separate birds, is particularly important.

## Symbols to use on Map

**M** = male Red Grouse (seen - position certain)  
**P** = pair of Red Grouse (seen - position certain)  
**?** = Unseen Male calling in distance, position uncertain  
**D** = Display flight

→ = Direction Of Flight  
→ = Bird disappeared from view  
→X = Landing Place  
—D = Landing Place

## Two males seen concurrently

**M:M** Territorial Aggression

**M — M** = Same bird moved  
(solid line)

**M - - - M** = Two different birds  
(dotted line)

Clearly identify observations that are definitely different Males

*Put the Map and the Fieldwork Record Sheet on separate pieces of paper*

*Write neatly – if the observations are illegible, there's no point in sending them in!!!!*

## Different Males heard Simultaneously

You are more likely to hear two male birds than see them, as they display against each other. These calls are usually not simultaneous, but the second will be heard a minute or so after the first. If it's not physically possible for a single bird to fly the distance between the two different locations in the time interval, or if you have a clear field of view of the ground between the two calls and no Grouse flew across it, mark the two calls as definitely different birds with the dotted line.

## Liaison with Neighbour

Are any of your observations also on your neighbour's map, or not (use mobile phone for contact – enter result in comments column "Also recorded from WPx". Check that your neighbour's watch says the same time as yours does!!!).

## Other Species – Optional Extra

If you feel able, please record any Curlew, Snipe, Red Kite and Grasshopper Warbler you see or hear.

## What to bring

Coloured pen (fine felt tip best) & clipboard / book to rest on  
Watch & Mobile phone

Very Warm, Windproof and Waterproof Clothing

Possibly a Torch, if you volunteer to leave the road

Possibly a compass, if you have one, to help map the direction of your observations

## Inclement Weather

We won't be able to have cancellation arrangements but information will be sent out via the email list when possible (this will necessarily be last minute). If it's misty, please come – Grouse call more in the mist!!! If it's raining hard, or it's very windy, and it's not going to change, don't come.

If in doubt, turn up. If you don't turn up, let us know the next day.

## Handing in Survey Maps

If you can, hand them in to Leo Smith or John Arnfield before going home.

If not, either bring them next week, or post to Leo Smith; The Bryn, All Stretton, Shropshire SY6 6JP

## Casual Records

If you are on Long Mynd any other time, and see 2 male Grouse displaying against each other, or a pair, please mark the locations on a Survey Map.

If it's on the same map as you use for your next Survey, mark the locations on that (but clearly record that observation as on a separate date). If you want more maps for such records, please ask

## More Information

If in doubt, ask - Leo Smith 01694 720296, leo@leosmith.org.uk

## Feedback - Project Report

By comparing the information on all the maps at the end of the survey period, plus casual records collected between now and July, we hope to be able to define the different territories, and count them. The results will be presented in a report which will be sent to all participants, probably in November. Participants will also be asked if they'd like a Feedback meeting.

## Repeat Next Year

Long term monitoring is important, so hopefully participants will join in again next year.

Leo Smith  
March 2013

### Appendix 3. Fieldwork Recording Sheet

Strettons Area Community Wildlife Group & Long Mynd Breeding Bird Project  
**RED GROUSE SURVEY 2013**

Name \_\_\_\_\_ Date \_\_\_\_\_ Watch Point Number \_\_\_\_\_

Start Time \_\_\_\_\_ Finish Time \_\_\_\_\_ (At Watch Point)

**Symbols to use on Map**

- M = male Red Grouse (seen - position certain)
- P = pair of Red Grouse (seen - position certain)
- ? = Unseen Male calling in distance, position uncertain
- D = Display flight
- = Direction Of Flight
- = Bird disappeared from view
- X = Landing Place
- D = Landing Place
- Two males seen concurrently
- M:M** Territorial Aggression
- M — M = Same bird moved (solid line)
- M - - - M = Two different birds (dotted line)

Number each observation recorded on the Survey Map , using the Ref. No. below

Ref		OBSERVATION	COMMENTS (Clearly identify observations that are definitely different Males)
No.	Time		
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

**Summary** (Please summarise the records above - Number of Definitely Different Males and Probably Different Males. Group the observation numbers that you think are the same bird e.g. 1, 4 & 5 same bird, 2 & 3 same bird, different from 1. 6 is another different bird. 7 may be the same as 3. Total definitely 3, possibly 4 different males)

Contact Number: Leo Smith 07791 901732

## Appendix 4. Fieldwork Recording – Summary

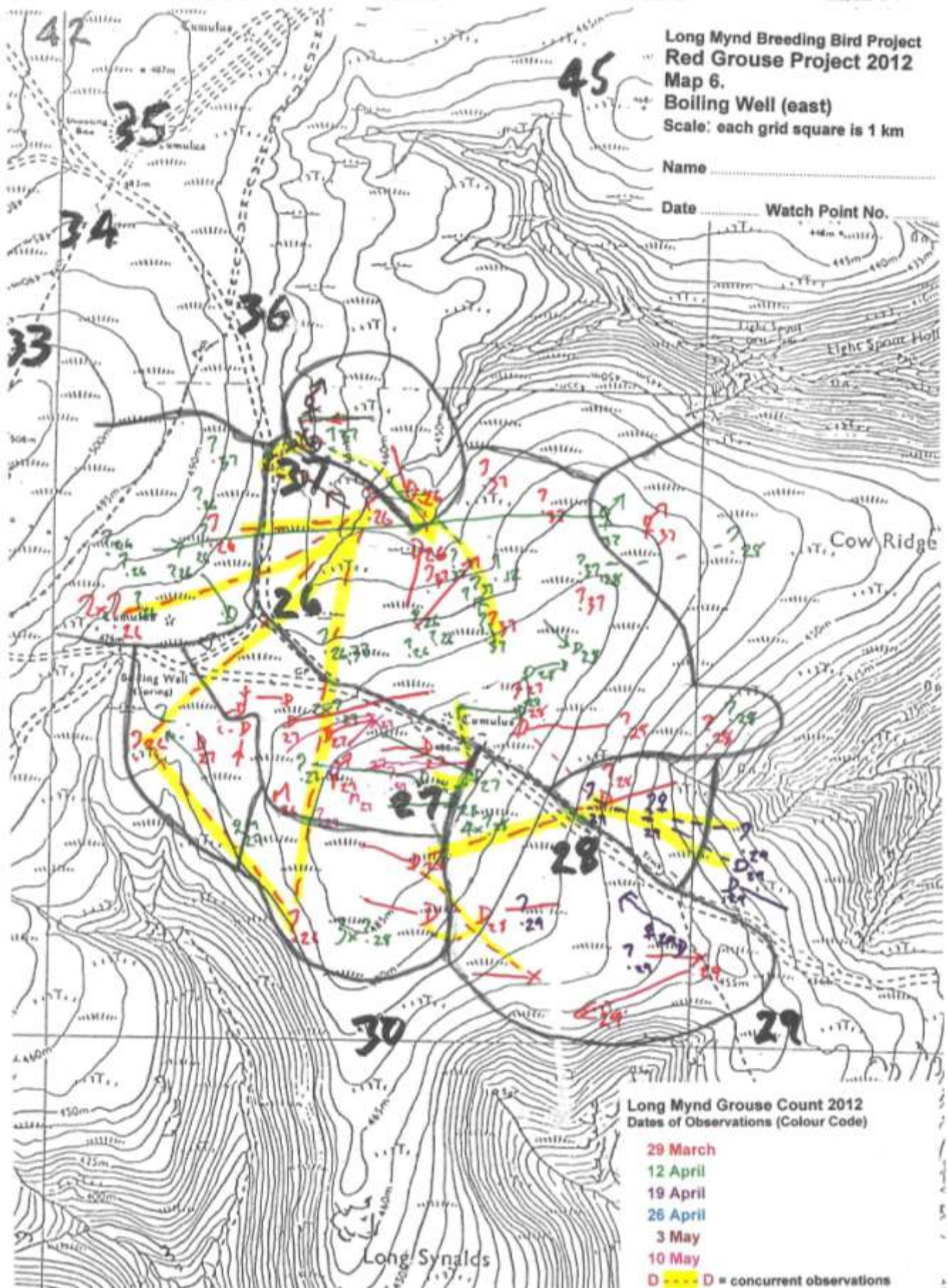
WP No.	25 April	30 April	2 May	7 May	16 May	21 May	30 May	Total Counts
1	Arnfield			Burman				2
2	Griffiths			Davidson				2
3	Halsey			Brown				2
4	McCann			Owen				2
5	Uff			Sillence				2
6	Bent			Farley				2
7	Worrell			French				2
8	Holbourn-Williams			Williams				2
9	Owen			Griffiths				2
10				McCann				1
11				Cooke				1
12	Sholl			Sholl				2
13	Hotchkiss			Halsey				2
14	Burman			Hotchkiss				2
15	Williams			Smith				2
16	French			Gillian				2
17	Wright			Holmes				2
18	Hathaway			Rooney, Sue				2
19		Holmes			Halsey			2
20	Ford				Holbourn-Williams			2
21	Cooke				Sillence			2
22		Scholl			Sholl			2
23	Davidson				Arnfield			2
24	Smith	Smith			Smith			3
25	Holmes	Owen			Owen			3
26		Holbourn-Williams			Halahan			2
27	Brown	Ford			McCann			3
28		Griffiths			Griffiths			2
29		Halsey			Middleton			2
30		Hathaway			Holmes			2
31		Cooke						1
32		Williams				Cooke		2
33		French	Sholl			French		3
34	Baker	Brown				Halahan		3
35		Rooney, Steve				Griffiths		2
36		Wright				Holmes		2
37		Rooney, Sue				Sholl		2
38		Hotchkiss						1
39	Pearce	Burman						2
40		Davidson	Holmes			Burman		3
41		Bent				Sillence		2
42		Farley	Farley			Williams		3
44		Gillian	French			Hotchkiss		3
45		Halahan				Middleton		2
46								0
47			Williams				Halsey	2
48							Steel	1
49			Gillian				Sholl	2
50			Ford				Holmes	2
51			Cooke					1
52			Rooney, Steve					1
53			Rooney, Sue					1
54			Griffiths				French	2
55			Brown				Williams	2
56			Burman				Griffiths	2
57			Davidson					1
58			Hotchkiss					1
59							Cooke	1
60			Hathaway					1
61			Holbourn-Williams				Shurmer	2
62								0
63			Uff					1
64			Halsey					1
65			Wright			Owen		2
66			Smith				Pearce	2
67			Owen					1
68			Bent					1
	24	23	23	18	12	12	10	122



## Appendix 5. Fieldwork Recording – All Observations

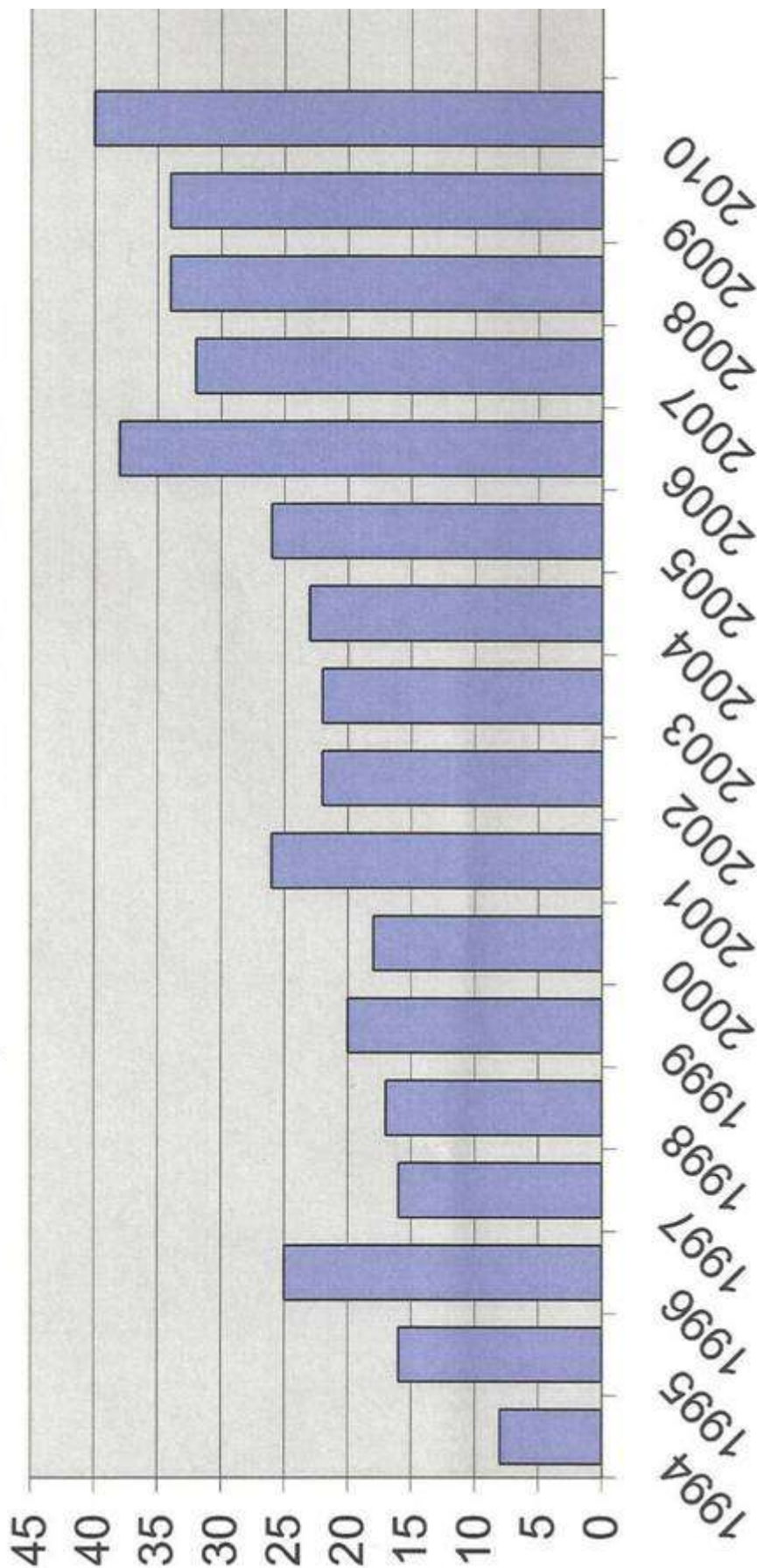
Survey Dates	April		May					Totals		
	25	30	2	7	16	21	30	Counts	Records	Average
1	0			2				2	2	1.0
2	1			5				2	6	3.0
3	0			2				2	2	1.0
4	0			0				2	0	0.0
5	0			0				2	0	0.0
6	0			4				2	4	2.0
7	6			2				2	8	4.0
8	3			2				2	5	2.5
9	2			5				2	7	3.5
10				5				1	5	5.0
11				2				1	2	2.0
12	0			3				2	3	1.5
13	3			1				2	4	2.0
14	6			5				2	11	5.5
15	3			8				2	11	5.5
16	2			9				2	11	5.5
17	2			10				2	12	6.0
18	5			9				2	14	7.0
19		0			0			2	0	0.0
20	0				7			2	7	3.5
21	0				4			2	4	2.0
22		1			7			2	8	4.0
23	0				11			2	11	5.5
24	0	1			8			3	9	3.0
25	0	3			5			3	8	2.7
26		6			14			2	20	10.0
27	2	1			10			3	13	4.3
28		2			14			2	16	8.0
29		0			5			2	5	2.5
30		3			8			2	11	5.5
31		0						1	0	0.0
32		4				4		2	8	4.0
33		4	9			5		3	18	6.0
34	1	3				5		3	9	3.0
35		3				3		2	6	3.0
36		3				5		2	8	4.0
37		3				3		2	6	3.0
38		2						1	2	2.0
39	2	10						2	12	6.0
40		6	5			5		3	16	5.3
41		0				4		2	4	2.0
42		13	11			2		3	26	8.7
44		13	0			7		3	20	6.7
45		2				1		2	3	1.5
46								0	0	0.0
47			5				1	2	6	3.0
48							0	1	0	0.0
49			2				2	2	4	2.0
50			8				2	2	10	5.0
51			2					1	2	2.0
52			4					1	4	4.0
53			4					1	4	4.0
54			12				1	2	13	6.5
55			10				1	2	11	5.5
56			8				1	2	9	4.5
57			6					1	6	6.0
58			13					1	13	13.0
59							2	1	2	2.0
60			0					1	0	0.0
61			1				0	2	1	0.5
62								0	0	0.0
63			5					1	5	5.0
64			0					1	0	0.0
65			8			0		2	8	4.0
66			3				0	2	3	1.5
67			2					1	2	2.0
68			0					1	0	0.0
<b>Total Counts</b>	<b>24</b>	<b>23</b>	<b>23</b>	<b>18</b>	<b>12</b>	<b>12</b>	<b>10</b>	<b>122</b>		
<b>Counts of No Grouse</b>	<b>11</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>26</b>		
<b>Total Grouse Records</b>	<b>38</b>	<b>83</b>	<b>118</b>	<b>74</b>	<b>93</b>	<b>44</b>	<b>10</b>		<b>460</b>	
<b>Average Records per Count</b>	<b>1.6</b>	<b>3.6</b>	<b>5.1</b>	<b>4.1</b>	<b>7.8</b>	<b>3.7</b>	<b>1.0</b>			<b>3.8</b>

**Appendix 6. Sample Master Map, showing all Fieldwork Observations**



# Number (minimum) of Red Grouse Territories on Long Mynd

min no. usually relates to territorial males recorded in at least 2 /3 visits



## Annexe 2. Results of Natural England Monitoring on The Stiperstones

Natural England do two counts each year.

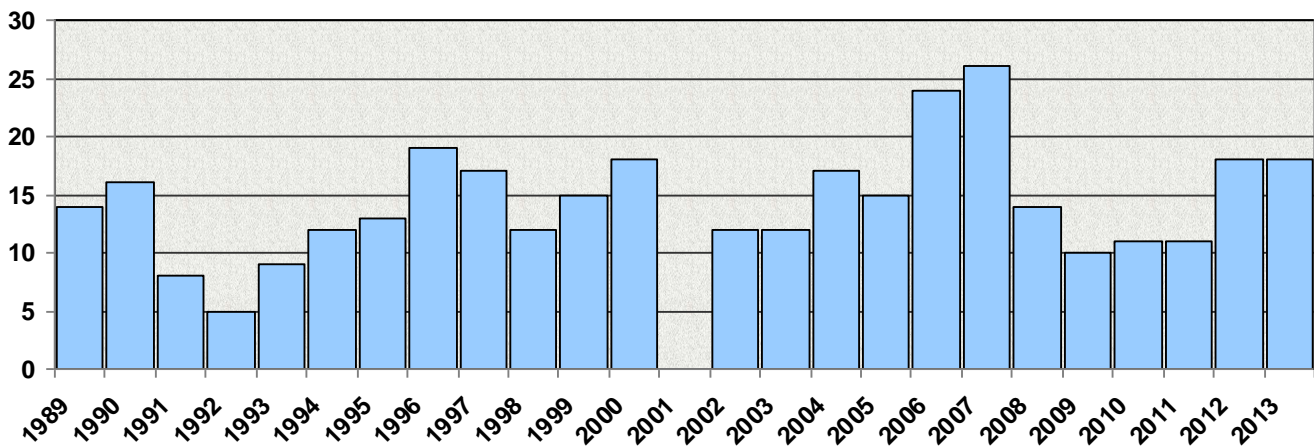
The first, mapping calling males at dawn in Spring, is similar to the monitoring previously carried out by the National Trust on The Long Mynd.

The second count involves several volunteers dragging a rope across the heather. Most of the Grouse habitat is covered, and the same area is covered each year. All flushed birds are counted, and the number of recently fledged young within the total are estimated. This provides an indication of breeding success.

The high counts in 2005-07 resulted from intensive predator control on and around NNR, which resumed in 2012.

**2013 was the best year for Grouse on the Stiperstones for 20 years.** A total of between 90 and 99 birds were counted, including a good number of large family groups. This is over double the number of birds counted last year and the highest autumn count since records began in 1993. There may be several reasons for this increase, but the working partnership between Natural England and the owner of the shooting rights in relation to heather burning and predator control will certainly have played its part. Last year was disappointing due to the poor summer, but this year we have hopefully seen a change for the better, and hope for this, one of our iconic birds.

### Minimum Spring Count (Calling Males at Dawn)



### Minimum Summer/Autumn count (Whole Population)

