



Wild Ennerdale



Photograph Heather Moorland, Ennerdale by P.Ullrich July 2006

Red Grouse *Lagopus lagopus scoticus* survey March 2007

A report by
Peter Ullrich
Commissioned by
The Wild Ennerdale Partnership -
Forestry Commission, National Trust
& United Utilities
25th June 2007

Peter Ullrich
Ornithological Consultant
25 Arlecdon Parks Road
Arlecdon
Frizington
Cumbria
CA26 3XG
Tel: 01946 861376
email: peter.ullrich@hotmail.com

Introduction and background

Red grouse *Lagopus lagopus scoticus* (hereafter referred to simply as red grouse) have long been associated with the extensive area of dry heath stretching from Crag Fell to Steeple. The red grouse is a subspecies of the willow grouse and has a circumpolar distribution. In England and Scotland the species is an amber bird of conservation concern (BOCC). This means the UK breeding population has undergone a moderate (25% - 50%) decline over the last 25 years.



A desktop study "*Red Grouse – Summary Of Known Status In The Lake District*" undertaken by Dave Shackleton in 1994 identified the status of red grouse for Ennerdale south, Crag Fell to Pillar as "few", indicating a population of between 5-30 pairs. Four red grouse were recorded on Lingmell in 1993. Additionally at the time the area was also identified as a "site where grouse numbers and heather area have declined and where heather is degraded." However no systematic red grouse survey was carried out to estimate numbers. Information was gleaned from local observers, and was in the form of casual records. It is very likely that the population at this time would have been very much at the lower end of the 5 – 30 pairs range category.

It is evident after examining more than thirty years of copies of the county natural history reports, that red grouse as a species has been very much neglected in terms of observer interest. Monitoring of numbers away from the managed grouse moors was rare; in some years not a single record was submitted.

This lack of enthusiasm for this iconic moorland species amongst past observers can best be summed up by the comment in the closing remarks from *Lakeland Birdlife 1920 – 1970* by R. H. Brown: "*The red grouse, pheasant and partridge are reared on a large scale solely for shooting, I have taken no interest in them.*" Accordingly, not even the briefest account is given for this species.

In the era before 1970 the lack of submission of records is also likely to be a reflection of the commonplace nature of the species across the much more extensive heather moorland present in Lakeland. There has always been a strong bias for ornithologists to submit records of the "more interesting" scarcer species with little time and interest being taken on commonplace species.

In the 1980s and 1990s observers and agencies became increasingly aware of the threat that over-grazing posed to the upland Lakeland flora and fauna. However, it is only relatively recently with changes in subsidy payments, and with a shift away from

“headage” payments to conservation orientated subsidy payments that any real improvements in heath land habitat have been possible.

Unfortunately, away from the major Lakeland grouse moors such as Skiddaw and Shap there are very few areas of the fells retaining a relict population of red grouse. The key areas of the Buttermere fells, Whinlatter and Borrowdale which still retain small numbers of red grouse are not systematically monitored for the species and therefore there is always the distinct possibility of even these populations quietly declining and disappearing without trace as has happened in so many other parts of their former Lakeland range.

Interestingly the best indication of the former presence of a healthy population of red grouse in West Cumbria makes no mention of Ennerdale. The following extract is taken from *“The Birds of The Lake Counties”* by Ralph Stokoe (1962): *“Several pairs were found on Dent Fell, near Cleator Moor in Spring 1961 and on Brown Edge, Blengdale in November 1961.”* Both these locations are now devoid of suitable habitat. There is however an interesting record from 1986 indicating several pairs at Mart Knott, Ennerdale. The last time red grouse was recorded in Ennerdale was during the course of *“The Breeding Birds of Cumbria, A tetrad atlas 1997-2001”* by Stott et al, when a single bird was recorded in tetrad NY1210 (southern end of Silvercove).

The author has often frequented many of the areas of heather moorland in the Ennerdale and Pillar Site of Special Scientific Interest (SSSI) post the 1997-2001 Cumbria Breeding Bird Atlas survey period and noted the absence of any signs of this species. These observations were never part of a targeted systematic search for red grouse and can only therefore be regarded as casual observations.

Red grouse was mentioned in the 1991 citation for the Ennerdale and Pillar SSSI as a component of *“one of the best upland bird assemblages in West Cumbria”*. Bearing this in mind it was selected as an important *“moorland”* indicator species for the Wild Ennerdale Project. It was therefore agreed that a species-specific survey was required to establish a baseline population estimate for red grouse at the outset of the Wild Ennerdale Project.

In Spring 2007 a readily repeatable red grouse survey was carried out across the *“prime”* areas of dry and wet heath in the Ennerdale and Pillar SSSI to establish its status.

Survey Proposals

Objectives

To estimate the spring population of red grouse by counting crowing cocks, to be carried out in a cost effective and readily repeatable method.

Timing

Mid March to Mid April

Weather

Ideally dry and no wind, but it is possible to carry out the survey in light to moderate winds and light rain.

Methodology

Familiarization with the area to be surveyed, thus allowing selection of vantage points in advance of survey work.

Survey work to start a *minimum* of 30 minutes before light and to continue until all six vantage points are covered.

The survey area is defined as the almost unbroken swathe of dry and wet heath stretching from the eastern slopes of Crag Fell across to the northern slopes of Steeple (see survey maps) - all within the Ennerdale and Pillar SSSI. This heath land accounts for all red grouse records that have been obtained in the Wild Ennerdale Project area over the last thirty years.

The survey area was divided in to two distinct blocks:

1. Side, Ennerdale
2. Lingmell, Ennerdale

Six vantage points (VP) to be chosen from each survey block, and timed 30 minute counts to be made from each VP. Each block to cover in a single survey comprising of a *pre-dawn & post-dawn* period.

On arrival at the VP all red grouse activity to be mapped as accurately as possible and recorded on to a vantage point count form. The aim is to estimate the number of crowing males and/or pairs. Each observation to be given a unique code. Locations, flight lines, displays and calling birds to be mapped using standard British Trust for Ornithology (BTO) notation.

A note of red grouse calling simultaneously should be made so as to establish the locations of different territories. Birds are likely to move between locations during the survey and a close watch on the movement of specific individuals should be made so as to avoid the risk of double counting. Any uncertainty as to whether the bird has been previously recorded should be noted, as this will help to estimate the true number of males recorded. Again, this can be shown using standard BTO notation.

Large areas of suitable habitat are walked over between vantage points and on the walk to and from the survey start/end point. These routes to be treated as transects. In

effect this survey comprises both a vantage point and a walkover component, thus ensuring good coverage of the suitable habitat. Any red grouse seen on these transects between VPs should be recorded. In addition in areas such as Western Lakeland with small red grouse populations, signs such as red grouse droppings and feathers should also be recorded.

As part of the survey work is to be carried out in the dark and the survey area is extremely rugged in nature with patchy mobile phone coverage, in the interests of safety the survey is best carried out using two observers both kitted out with head torches.

A global positioning system (GPS) is used to record the survey track and all vantage points are entered in to the device.

This is in turn stored on Memory Map software on a personal computer (PC).

Future surveys

These surveys are readily repeatable in their entirety as all the vantage point locations and the track log are mapped and stored electronically. This would allow future surveys to be carried out using the same format and following the exact routes taken between VPs. Eight figure grid references are given below to allow repetition of the survey in future years, potentially every five or ten years.

The Surveys

Red grouse Survey No1 (Side) 28/03/07

Location of VPs using 8 figure grid ref:

Mk001 NY10301407 Spoil Heap, Red Beck

Mk002 NY10601378 Side West

Mk003 NY11411351 Side Central

Mk004 NY12521320 Wall junction, Mart Knott

Mk005 NY12721251 Lower Silvercove

Mk006 NY12631174 Upper Silvercove

Additionally, VP locations are clearly shown on survey map.

Timing of surveys, all times are BST:

Mk001 05:10 – 05:50hrs

Mk002 06:04 – 06:24hrs

Mk003 06:56 – 07:26hrs

Mk004 07:57 – 08:27hrs

Mk005 08:48 – 09:18hrs

Mk006 09:58 – 10:28hrs

Weather Conditions

Mk001 – Clear starry sky no cloud, exceptionally mild, wind SE force 2 giving ideal survey conditions. Gull roost heard clearly on the lake. Good visibility; lights of Whitehaven clearly seen.

Mk002 – No wind, first light at 06:20 hrs BST. Cloud base above Pillar.

Mk003 – No wind, sunrises above fells at 07:13hrs.

Mk004 – No wind, hazy sun and visibility 6km.

Mk005 – Dead calm, exceptionally mild, sunny, visibility a hazy 4km.

Mk006 – No wind, mild, hazy conditions worsen, visibility now 3km, cloud base above 750m.

Red grouse Survey No2 (Lingmell) 31/03/07

Location of VPs using 8 figure grid ref:

Mk001 NY15011286 Northern slope Steeple

Mk002 NY14841277 Lower Low Beck

Mk003 NY14991246 Upper Low Beck

Mk004 NY14401247 Upper Lingmell

Mk005 NY14171223 Deep Gill

Mk006 NY14351305 Lower Lingmell Additionally, VP locations are clearly shown on survey map.

Timing of surveys, all times are BST:

Mk001 05:23 – 05:53hrs

Mk002 06:00 – 06:30hrs

Mk003 06:38 – 07:08hrs

Mk004 07:26 – 07:56hrs

Mk005 08:05 – 08:35hrs

Mk006 09:10 – 09:40hrs

Weather Conditions

Mk001 - Pitch Black, full moon is veiled by 80% high cloud and soon sets behind fells, a cold NE wind force 2 to 4 but gusting to force 6.

Mk002 – More sheltered than Mk001, wind NE force 2, gusting to force 4. First light at 06:10hrs BST

Mk003 – Wind NE force 2, gusting force 5. 100% high cloud cover, cloud base above 900m. Visibility 15 km.

Mk004 – Wind NE force 3 to 5. 100% high cloud cover, cloud base above 900m. Visibility 15 km.

Mk005 – Totally sheltered from NE wind. 100% high cloud cover, cloud base above 900m. Visibility 15 km.

Mk006 – Wind NE force 3. 100% high cloud cover, cloud base above 900m. Visibility 15 km.

Survey Results

No red grouse were recorded from the vantage points on the red grouse survey No1 (Side) on 28/03/07 or from the vantage points on the red grouse survey No2 (Lingmell) on 31/03/07.

No red grouse were seen on the walkover survey between vantage points and additionally no red grouse droppings or feathers were seen during the survey.

Summary

This systematic survey indicates that red grouse are no longer present in their former strongholds of Side and Lingmell, these being the prime areas of dry and wet heath within the Wild Ennerdale Project area. In recent years the author has frequented the survey area on many occasions. The lack of any signs of red grouse during the survey supports the author's own observations in recent years.

Discussion

In order to understand the loss of red grouse from Ennerdale, it is useful to consider the following:

- In the Lake District as well as the rest of the British Isles, over the last forty years there has been in place an upland agricultural policy that has encouraged high stocking levels of sheep, resulting in extensive heath land communities being converted to grassland. Coupled with loss of heath land to afforestation, these factors have undoubtedly been the major contributors involved in the decline and loss of red grouse from many of its former haunts.
- There are two distinct population types of red grouse in Cumbria:
 1. Grouse Moor populations
Optimum conditions are created to boost population levels well above what would occur naturally for the purpose of sport hunting. This intensive management includes burning/cutting to produce a mosaic of different ages of heather-dominated vegetation, predator control and disease control. Spring population densities of 20 to 50 pairs per square km can be achieved in good years, especially on the Northern Pennine moors. There are only three remaining grouse moors within the Lake District National Park (LDNP) these being Skiddaw, Shap and Potter Fell. Skiddaw Forest differs from the other two grouse moors, in that it is managed by the LDNP authority as a “conservation moor” and not primarily for its sporting interest.
 2. Relict natural populations
Away from the grouse moors there is usually no targeted management at all for red grouse, although recent reductions in stocking levels of sheep should clearly be beneficial, resulting in an increase in heath land plant communities. These “natural” populations are present at very low levels. *“The Breeding Birds of Cumbria, A tetrad atlas 1997-2001”* by Stott et al, indicates away from managed grouse moors *“where heather persists densities from the count data during this Atlas reflect a more natural level of 4-5 birds per km”*.
- In Cumbria there has been a 27.7% decrease in the number of occupied 10km squares between 1968 –1972 and 1997 – 2001. However, the survey methodology for atlas work is not designed specifically to detect red grouse and was not designed to estimate population levels. It would be reasonable to say that apart from the grouse moors, such as Skiddaw where regular long term monitoring occurs, we have no reasonably accurate population estimates for red grouse in the LDNP.
- The last record for red grouse in Ennerdale was in 2000. The distributional map for red grouse from *“The Breeding Birds of Cumbria, A tetrad atlas 1997-2001”* by Stott et al, shows that Ennerdale is located at the southern periphery of a cluster of records. It also shows the core area of the LDNP's “natural” red grouse population is centred in the Buttermere Fells, the Borrowdale Fells and

the Whinlatter area. To the south of Ennerdale the closest locations were in excess of 30km distant. This included a single record from Black Coombe, and a few records from the grouse moor at Kirkby Moor.

- In West Cumbria over the last sixty years red grouse have suffered a major contraction in range. Gone are the adjacent Blengdale, Dent and West Cumbrian coastal moorland populations. Slightly further afield the Eskdale, Birker fell and Mitredale populations are also extinct. It is perhaps not surprising that the small and relatively isolated Ennerdale population still present in the early 1990s and at the edge of its range would also be highly vulnerable as the Lakeland population continued to contract and decline. As red grouse are now thought to be extinct in the valley it is now too late to study and categorically determine the factors driving the decline.

- Recent work in Northern Ireland is of particular relevance with regard to our situation in the LDNP, as here they have encountered huge declines in population and in distributional range. This has resulted in the drawing up of the *“Draft Northern Ireland Species Action Plan – Red Grouse Lagopus lagopus scoticus/hibernicus” June 2007*

The action plan indicates a decline of 60% in the last thirty years.

The main bullet points taken from the report suggests the following *“Current Factors Causing Loss or Decline”*:

1. Loss and fragmentation of upland heath land and blanket bog as a result of overgrazing, agricultural improvement and afforestation have reduced the areas in which grouse can occur.
2. Breeding birds are concentrated into smaller areas and as a consequence they also become more vulnerable to predators, such as foxes and crows as well as disease and disturbance.
3. Management of moors for grouse has declined significantly. Inappropriate grazing levels have caused a decline in heather cover and the variation of heather age-classes required by the species.
4. Heather beetle damage is extensive in some areas and can cause the death of large tracts of moorland.
5. Continued shooting of grouse in areas which support a very small and isolated population can lead to local extinctions.
6. Two diseases can seriously affect grouse populations - a caecal nematode and louping ill. Louping ill can cause serious mortality and is linked to sheep numbers, as the sheep tick is the vector for disease transfer.

While considering the above points, it is important to remember that the report is specific to the situation in Northern Ireland. Nevertheless it is likely that some of these factors would be highly relevant with regard to the contraction and decline of red grouse in the Lake District as both areas share many similar characteristics including a distinctly wet and mild climate.

- The fate of black grouse in Lakeland offers a salutary warning of what can so easily befall our special wildlife. Black grouse are now extinct in the Lake District. Unfortunately for many Lakeland valleys such as Ennerdale, Blengdale and Eskdale habitat rehabilitation would appear to have come too late to aid natural recolonisation by this charismatic “moorland” species which was present in these valleys as recently as the 1970s. It is difficult to envisage natural

recolonisation by black grouse when the nearest known population is located in the distant Pennines.

- The prospect of natural recolonisation of the project area by red grouse hangs in the balance and would be totally reliant on maintaining and enhancing red grouse populations outside the project area. The nearby Buttermere fells still maintain a small red grouse population. However, as the only evidence for this comes from the casual records supplied to the county natural history report, it would be fair to say that the true extent of this population is currently unknown. Red grouse is described as a sedentary species not readily moving any great distance. However, it is conceivable that given favourable management conditions, and if the adjacent Buttermere fells population is still viable this could theoretically produce an excess population capable of recolonising the Ennerdale and Pillar SSSI.

If red grouse is considered a vital and desirable component of the Ennerdale avifauna and natural recolonisation a worthy goal then a concerted targeted action plan in the wider Lake District environment will be required to achieve a sustainable population throughout its current range.

The first step in this process with regard to Ennerdale would be to evaluate the range and estimate the red grouse population in the main core area of the Buttermere fells, the Borrowdale Fells and the Whinlatter area.

- This report recognizes that there are special difficulties involved in ascertaining a reliable population estimate for “naturally” occurring red grouse, as these populations are present at very low densities across extensive upland areas. Population levels are often in the region of 1 to 3 pairs per square km and sometimes less than 1 per square km.
- In the Lake District National Park the “natural” red grouse population, away from the grouse moors has never been accurately estimated. Given that much of the current conservation based subsidies are targeted at heath land rehabilitation and that red grouse is a key indicator species for this habitat, it would be advisable to carry out a full species specific red grouse survey of the Lake District, using NVC maps to identify the areas of suitable habitat to be surveyed. Good baseline data for this key species would prove invaluable as a way of monitoring changes in the Lakeland environment.
- It is highly likely that red grouse have been a component of the avifauna of Ennerdale for many hundreds of years, if not thousands of years! Even in the 1970s it would hardly have seemed plausible, given the apparent health of the Ennerdale red grouse population, to envisage that thirty years on they would be locally extinct. Only a dedicated effort targeted at the recovery of red grouse in the wider Lake District environment will return this species to its ancestral Ennerdale home.
- There is a clear dilemma for the Wild Ennerdale Project as many of the recognized red grouse management techniques are highly interventional and may conflict with the ethos of the project vision statement “to allow the evolution

of Ennerdale as a wild valley for the benefit of people relying more on natural processes to shape its landscape and ecology”.

The challenge thus presenting itself is twofold:

- the development of a long-term strategy capable of maintaining a sustainable population of red grouse without unduly compromising the vision statement of the Wild Ennerdale Project.
- the development of a holistic strategy focused on reversing long-term declines and embracing the wider natural population of red grouse throughout the Lake District National Park.

It is clear that the former is dependant on the latter.

Recommendations

1. Repeat the survey every 5 years.
2. Establish low intensity grazing management on open land within the valley such that recovery of heath land vegetation is possible.
3. Consider the minimum viable area required to hold a sustainable population of red grouse and compare this with past, present and potential future heath land vegetation.
4. Promote research, survey and management actions in the adjacent population of red grouse in the Buttermere fells, Borrowdale fells and Whinlatter area.
5. Research survey techniques used in Northern Ireland and the Republic of Ireland which have used tape luring to help estimate population densities in areas with low population densities.

Bibliography and further reading

Brown R.H. 1974 “Lakeland Birdlife 1920 – 1970.”

Shackleton D.1994 “Red Grouse – Summary of Known Status in the Lake District.”

Stokoe R. 1962 “The Birds of the Lake Counties.”

Stott et al. 2002 “The Breeding Birds of Cumbria – A Tetrads Atlas 1997-2001.”

June 2007 “Draft Northern Ireland Action Plan – Red Grouse *Lagopus lagopus scoticus/hibernicus*”

www.ehsni.gov.uk

“The Population Status of Birds in the UK – Birds of conservation concern: 2002-2007”

www.rspb.org.uk