Uplands Newsletter

NOVEMBER 2025 | ISSUE 15 | THE GWCT AUTUMN UPDATE

INTRODUCTION

It is a pleasure to welcome you to our 15th Uplands Newsletter and to introduce myself. I succeeded Dave Baines in September 2024, and it is an honour to continue building on his significant contribution to upland science.

I have worked as a wildlife ecologist for 25 years, initially working for the Trust studying red grouse and mountain hares. I then joined what is now the James Hutton Institute where I led research on mountain hare population ecology and monitoring, the impact of upland management on biodiversity, and the effects of land cover, land use, and climate change on species populations and distributions. I rejoined the GWCT in 2023 as a senior scientist and now lead the upland research team.

Over the past year, we have joined our Scottish and English upland teams, enabling us to deliver more integrated, better resourced, and representative research across the upland landscape. This has provided an opportunity to reflect on how we work, share our findings, and strengthen the presence of upland research within both the scientific community and wider society.

Our research has a long and distinguished history. Since the mid-1980s, we have conducted grouse counts across moors in the English and Scottish uplands, establishing the UK's longest-running red grouse population dataset. This unparalleled record allows us to identify long-term trends, explore ecological interactions, and inform evidence-based management. By using these datasets and combining them with large-scale experiments to produce rigorous peer-reviewed science, the GWCT has addressed complex and often overlooked challenges in upland conservation and management.

Looking ahead, we want to extend our Maternal Grouse Project (see page 6), and analyse our long-term grouse count data, which combined will allow us to better understand the contemporary drivers of red grouse populations. Understanding how climate and land use change and evolving policy might shape our uplands is also important, therefore we are developing our 'Future Moors Scenario' proposal to explore and quantify how changes in the uplands might affect biodiversity.

It is equally important to demonstrate how the GWCT's science is applied and used as evidence – whether in policy discussions, practical management advice, or in shaping the future of the uplands. In this newsletter, you will find updates on current projects, insights from our policy engagement, practical guidance for moorland management, and a summary of this year's published papers.

Finally, I would like to extend my sincere thanks to our members and donors. Your continued support makes our work possible and ensures that we can deliver high-quality science for the benefit of the uplands and those who care for them. ■

Scott Newey
Head of Upland Research

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RED GROUSE COUNTS

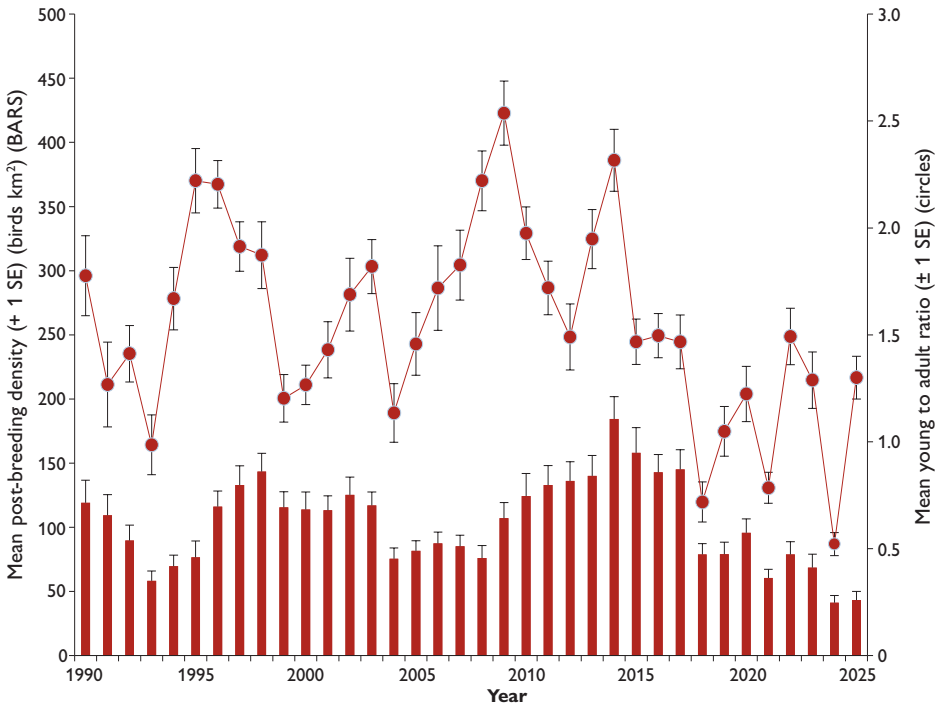
by Kathy Fletcher and Phil Warren

In spring and summer 2025, GWCT staff and estate employees collected data on 28 of the long-term count sites in northern England and 32 sites in Scotland. As many of the study sites have been monitored since the 1980s, this GWCT dataset is one of a kind and offers crucial insights into red grouse population dynamics.

Following the poor productivity in 2024 the spring densities were 39% lower in England (75 birds per km^2) and 33% lower in Scotland (27 birds km^2) than recorded in spring 2024. When counts were repeated in July/August adult density was, on average, 36% and 29% lower than spring in England and Scotland respectively. Productivity was higher than 2024, with an average young to adult ratio of 1.4 and 1.3 in England and Scotland respectively (see Figure 1a & b). However, this

Figure 1a

Scotland: Post-breeding density (left-hand axis – bars) and young to adult ratio (right-hand axis and burgundy circles) from 21-32 sites



As many of the study sites have been monitored since the 1980s, this GWCT dataset is one of a kind and offers crucial insights into red grouse population dynamics

For many estates, 2025 will act as a building year where grouse populations are allowed to recover from the crash of 2024.

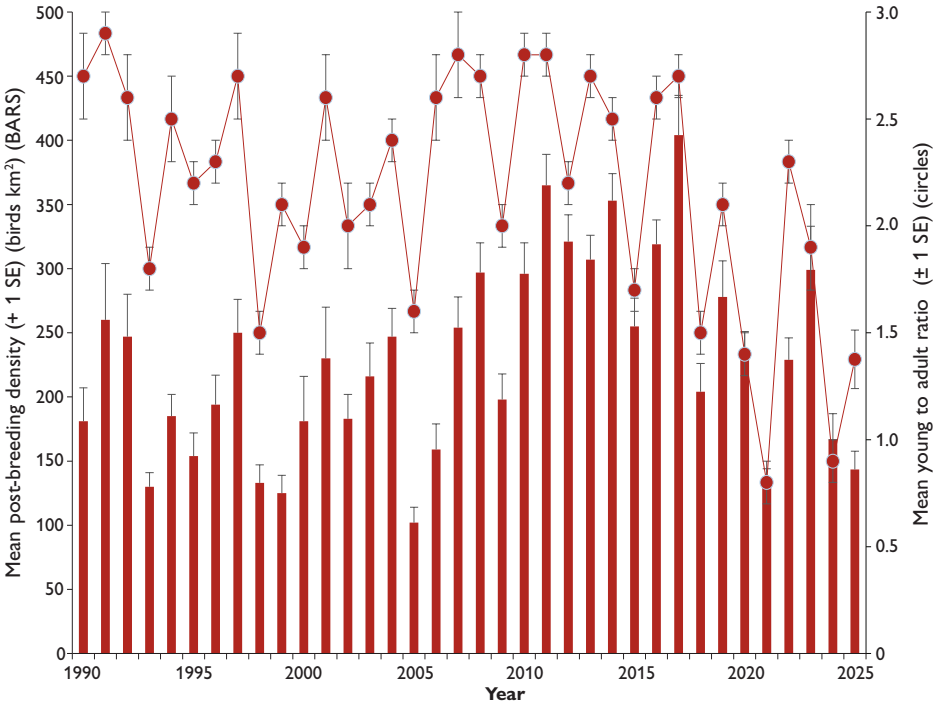
productivity was not enough to result in an increase in post-breeding density compared with 2024. Average post-breeding density was lower than 2024 in England (144 birds per km^2) and similar to 2024 in Scotland (44 birds per km^2).

A regional break down showed improved breeding success compared to last year across all regions in Scotland, but there were differences within northern England regions. The average breeding success was lower in the Southern Dales compared with last year, but higher in the Northern Dales. This is likely to have been influenced by the severe heather beetle damage that was reported, which can destroy a large part of the main food source of grouse.

For many estates in England and Scotland, 2025 will act as a building year where grouse populations are allowed to recover from the catastrophic crash of 2024. ■

Figure 1b

England: Post-breeding density (left-hand axis – bars) and young to adult ratio (right-hand axis and burgundy circles) from 17-56 sites



BLACK GROUSE BREED ON THE NORTH YORK MOORS FOR THE FIRST TIME IN ALMOST 200 YEARS

by Phil Warren and Holly Appleby

In autumn 2024, 10 male and 10 female black grouse were translocated from donor sites in the North Pennines to a recipient site in the North York Moors. Eight males and eight females were equipped with radio-tags to monitor movements and survival. Survival of the translocated birds has been good, with tags from one male and three females recovered since their release.

The seven translocated tagged males that survived the winter established leks in and around the area where they had been released, where they displayed to attract females and mate. All seven translocated tagged females that survived the winter nested, with five hatching chicks, but two abandoned their nests (we think their eggs were unfertilised). In early August, four of the females that hatched young fledged broods of one, two, four and five chicks.

The project met its short-term success criteria; the birds settled well, established leks, and most importantly, bred successfully, and we are really pleased with the results from the first year of the project. This October, a further 10 males and 10 females were translocated to bolster the initial release. All females were fitted with GPS tags (funded by Farming in Protected Landscapes), providing a more cost-effective way of investigating fine-scale movements of birds as they settle and breed.

It is likely the first time in nearly 200 years that black grouse have bred on the North York Moors, with no reliable records of successful breeding since the 1840s. It is the first step towards reaching our long-term aim of establishing a self-sustaining population of 100-250 males and associated females.

Brood foraging requirements

In winter 2024/25 we equipped 17 female black grouse with GPS tags, complementing four active tags which were deployed in early 2024. Prior to breeding, three tagged females were recovered dead, with one bird killed on the road and two where the cause of death could not be determined, and five tagged females either shed their tags or moved into areas without GPS signal. We followed the remaining 13 females through the breeding period.

All of these females nested and subsequently hatched chicks in June. Four females lost their broods within the first three weeks of hatching. One tag was recovered (with no body) from a female with chicks aged 24 days old, and we suspect the tag fell off.

As in 2024 we collected habitat measures, insect samples and chick roost droppings from all 13 broods during the chick rearing period, to assess key chick prey, and these will be processed this winter.

We visited the eight broods in August and recorded 26 chicks; an average of 2.2 chicks per female. The productivity observed by these GPS tagged females was similar to the estimate from the core brood counts from surveys using pointing dogs where across five sites, we recorded 26 females, 19 broods and 67 chicks; an average of 2.6 chicks per female. This has been a good breeding year for black grouse. In 2026, we plan to fit a further 10 females with GPS tags to continue this study.

This project was initially funded by Natural England's Species Recovery Programme and has been supported by BASC's Wildlife Fund and generous donations from members and the public through the Black Grouse Appeal. Thanks must go to the estates in the North Pennines, helping to locate and move birds, and host our brood foraging study. We are also incredibly grateful for all the help we have had from the keepers on the North York Moors for looking after the released birds. ■

A sample of the translocated birds were tracked during the year. (Inset) A black grouse poult from a successful nest on the North York Moors.

The project met its short-term success criteria; the birds settled well, established leks, and most importantly, bred successfully

A radio-tagged red grouse hen sat tightly on her clutch in a bilberry patch. In depth habitat surveys of each individual nest helps us to understand the preferred nesting cover which can help guide management practices.

FACTORS AFFECTING THE BREEDING SUCCESS OF RED GROUSE

by Leah Cloonan

Crashes in grouse populations in recent years have highlighted the need to better understand grouse population dynamics and the factors which currently influence these dramatic declines. It is thought that a combination of factors are most likely contributing to these declines, including strongyle worm burdens, poor heather condition in spring following late frosts and previous heather beetle attacks, low cotton grass flowerhead production and a mismatch between hatch of grouse chicks and the emergence of key invertebrate species upon which they depend – specifically craneflies. The need to understand how these factors affect the breeding success of female red grouse led to the development of the 'Maternal Grouse Project' in 2021. Now in its third year of data collection in the North Pennines, I am happy to report that the project has completed another full fieldwork season.

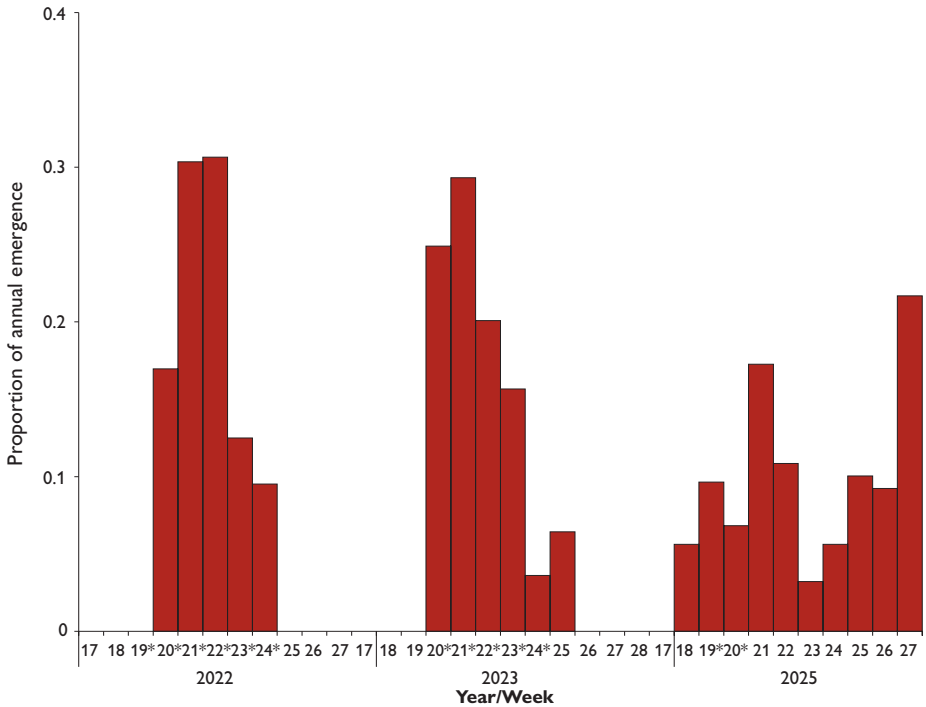
This year, we have followed the breeding outcomes of 47 red grouse hens on four sites in the region. Fieldwork kicked off in March with spring grouse counts to estimate breeding pairs, and fitting of radio-tags to hens. It continued until the end of August, when we attended shoot days to take gut samples for worm burden analysis and blood samples for presence of louping-ill antibodies (with the latter being one of the new elements we have built into the study for this year).

Many of you may wonder, how much data can you get from fitting a radio-tag to a red grouse? The answer, I can confirm, is a lot. From determining

Figure 1

Cranefly emergence period in 2022, 2023 and 2025 in relation to the main red grouse hatching period.

**main hatching period*



territory size and habitat use, accurately determining clutch size, egg size, incubation behaviour and accurate hatch dates, to hen survival and the fate of broods – radio-tags allow us to get it all. This research project really does leave no stone unturned.

Even though the data collected so far is awaiting formal analysis, one of the interesting findings is the pattern in the emergence of craneflies. A key chick-food source, and potentially one of the factors affecting breeding success. Figure 1 shows the pattern in the emergence of craneflies in 2025 compared to 2022 and 2023. It shows multiple peaks in the numbers of craneflies emerging in 2025 and over a longer, more drawn out period covering at least 10 weeks compared to previous emergence patterns which show a single peak occurring over five to six weeks.

Although the breeding season has finished, our fieldwork will continue throughout autumn and winter, and we will continue to map the radio-tagged hens movements, territory size and habitat use. The latter being particularly interesting following a bad outbreak of heather beetle this year. In the near future we hope to use a drone equipped with a multispectral camera to map habitats and enable 3D modelling of vegetation. Data from these drone surveys will enable us to accurately quantify and map the extent of damaged heather and overlay this with the movement of our tagged hens.

All of the information we collect will give an insight into some of the current drivers of red grouse breeding success. This will allow us to guide future, modern, sustainable grouse moor management and conservation in the face of climate and habitat change and increasing legislation

Combined with the previous years' data, all of the information we collect will give an insight into some of the current drivers of red grouse breeding success. This will allow us to guide future, modern, sustainable grouse moor management and conservation in the face of climate and habitat change, and increasing legislation.

Next year we hope to expand the project, subject to funding, to the Scottish Borders and north-east Scotland. This will allow us to investigate whether the factors affecting grouse productivity in the North Pennines are the same as those elsewhere in the UK's uplands, or whether the challenges faced by breeding grouse and their chicks vary from region to region.

With the end of the 2025 fieldwork season upon us, I would like to take this time to thank the gamekeepers on the study sites for their invaluable help and for allowing us access all year round. We couldn't conduct this important research without their support and, more importantly, their trust.

If you would like to find out more about how you can contribute to the continuation or expansion of this project, please contact us to discuss further. ■

Thanks to Phil Warren for fitting radio-tags and conducting grouse counts, and Sam Rawlinson for all the fieldwork support this year.

Radio-tagging red grouse enables us to determine territory size and habitat use, clutch size, accurate hatch dates, hen survival and the fate of broods.

We need more people to count grey partridges in the uplands especially in the hill fringe areas, even if you only have a few.

THE PARTRIDGE COUNT SCHEME IN THE UPLANDS

by Leah Cloonan

The GWCT has been running the Partridge Count Scheme since 1933. It is a free and voluntary practitioner-led monitoring initiative which measures the annual abundance and breeding success of grey partridges.

Spring counts usually take place from March until May to establish the number of breeding pairs, while autumn counts take place from late August and throughout September to count coveys.

Currently, grey partridge counts are under-represented in the uplands which is why we are hoping to increase uptake in the scheme in the hill fringe areas. Anyone can take part, and we are looking for more farmers, landowners, land managers, and gamekeepers who are interested in helping to conserve the grey partridge. To become involved all you need to do is count your partridges and submit your findings. There are no restrictions on how few partridges you must have and counts of zero are also just as important to understand their current range.

Counting your grey partridges in the uplands is slightly different to the lowlands and farmland areas. Therefore, to take part, please email lcloonan@gwct.org.uk for more information on how to count and submit your partridge numbers. ■

Counting grey partridges in the uplands is slightly different to the lowlands, but do contact us for advice.

© Holly Appleby, SarahGrondowski

The National Gamebag Census contains records from 20 mammal species, ranging from game animals to their predators.

NATIONAL GAMEBAG CENSUS
by Ashlee Rossiter

The National Gamebag Census (NGC) was established by the GWCT in 1961 to provide a central repository of records from estates in England, Wales, Scotland and Northern Ireland. The records comprise information from shooting and gamekeeping activities on the numbers of each quarry species shot annually ('bag data').

The Census also includes information on the numbers of gamebirds released on shoots each year. Through the inclusion of data from historical game books, records for several species extend back to the early 20th century and for a few game species to the early 19th century. Data on predatory birds and mammals allowed by law to be controlled have also been collected systematically since 1961. The scheme is voluntary, and we are most grateful to all the owners and keepers who send in their returns at the end of each season.

The long runs of well-documented data on 24 huntable bird species, 11 'pest' bird species and 20 mammal species make bag returns an important source of information on the changes in numbers killed and, by inference, on population densities. They also provide a unique historical perspective on changes in shooting itself.

Because a substantial proportion of the countryside is managed for shooting, the NGC data potentially reflect trends in national and regional abundance for a wide range of species, many of which are poorly monitored by Government schemes. It is, however, important to realise that bag data depend on effort as well as on abundance, so the interpretation of trends is not necessarily straightforward.

NGC data allows the GWCT to provide independent evidence, both in scientific papers and in response to Government calls for further information. Please encourage friends and neighbours who have a shooting interest to join the scheme. There is no fee and all information provided is kept strictly confidential. To join please go to gwct.org.uk/ngc or contact Ashlee Rossiter by email ngc@gwct.org.uk or 01425 651019.

HOW YOU CAN HELP

- **PARTRIDGE COUNT SCHEME** Partridge counts offer valuable insight into how well your partridges breed, survive and benefit from your habitat and management provision throughout the year. Each count (spring and autumn) is easy to carry out and helps assess the previous six months without the need for continual monitoring. gwct.org.uk/pcs

- **NATIONAL GAMEBAG CENSUS** is free to join and all records are confidential. Please contribute your annual bag records – the more data we receive, the better it is for geographical coverage and precision of the summary trends that we produce. If you have historical data held in game books, we would also be delighted to hear from you. gwct.org.uk/ngc

We are assessing how vegetation, hydrology and invertebrates respond to heather burning and cutting (inset).

HEATHER MANAGEMENT RESEARCH

by Scott Newey and Leah Cloonan

Vegetation and in particular heather species underpin upland ecology and game management. Understanding how vegetation responds to different management actions and a changing climate, and the impact of disease and pests, is a key step towards modern sustainable game management. Here we provide a brief update on some of our ongoing, and now completed research projects on vegetation management.

Blanket peat habitat responses to burning and cutting

This long-term experiment set up in 2019 aims to assess how vegetation, hydrology and invertebrates respond to heather burning and cutting. The study comprises five sites in northern England. On each site, we set up replicated experimental blocks to look at the effects of: i) cutting (brash removed); ii) cutting (brash left in situ); iii) burning; iv) control (no management).

Vegetation, hydrology and invertebrate abundance data were collected annually from 2020-2024. We plan to revisit the experimental plots in 2027 to collect the same data.

Investigating peatland habitat responses to severity of heather cutting

We set up this experiment in winter 2022/23 to assess how vegetation and hydrology respond to cutting at different heights. There are six study sites in Upper Teesdale; three on shallow (<40cm) peat, and three deep (>40cm) peat. All cuts were conducted in winter 2022/23 using the same machinery (tractor and flail mower), leaving a uniform mulch across the whole plot.

On each site, there are four experimental blocks, each block comprising four plots randomly assigned to one treatment: i) high cut at 20cm above level ground; ii) medium cut at 10cm above level ground; iii) low cut at 5cm above level ground; iv) control – no cutting.

The study is now in its third year of post-treatment monitoring with data collection in 2025 compromising of hydrology measures and vegetation surveys. This data collection will be continued into 2026.

Management interventions for restoration of heather sward after heather beetle outbreaks

This experimental study established in 2021 and now completed, was set up to look at the effect of heather management on heather recovery after a heather beetle attack. The study comprised 18 experimental plots, each of 0.02ha, across two study sites. One site was on deep (>40cm) peat blanket bog, and the other was on shallow (<40cm) peat dry heath. On each study site, there were six randomised replicates of three heather-management treatments: i) burn; ii) cut; iii) no-treatment (control), within areas of heather that had been damaged by heather beetle in the previous year.

Annual autumn measurements of subsequent vegetation responses were conducted for all treatment plots in 2022, 2023 and 2024. This project has now come to an end and will be written up for publication. ■

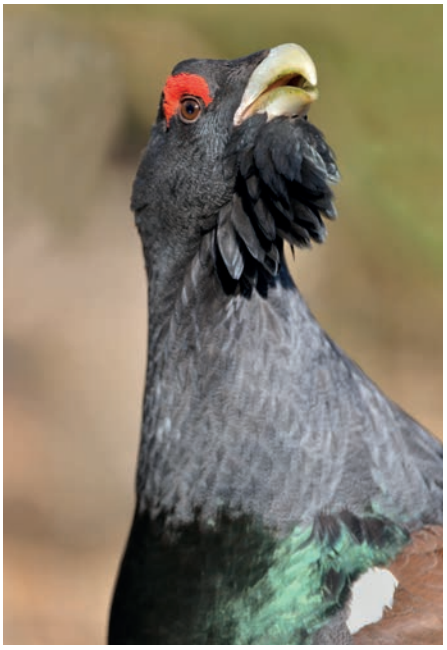
NEW NATIVE WOODLANDS – CAN THEY BENEFIT BLACK GROUSE WHILE MINIMISING THE EFFECTS ON BREEDING WADERS?

by Holly Appleby and Phil Warren

In 2023, we commenced a study to explore the impacts of newly-planted native woodlands on black grouse and breeding waders in the upper South Tyne Valley and the Eden Valley slopes. These woodlands typically consist of birch, rowan and hawthorn and can provide critically important winter-feeding habitats for black grouse in severe winters. However, large new woodlands planted in the wrong place in open areas may negatively impact breeding waders. The North Pennines is a nationally important area for both black grouse and a suite of breeding waders, so it is important that we consider all the different species needs. We have mapped all new native woodlands across both study areas, collected information on woodland use by black grouse during the winter, recorded species composition and age of new woodlands, and also breeding wader abundance in the vicinity of these woodlands. We aim now to assess these data to help inform future woodland planting in the upland fringe. ■

We are looking at the effects of woodland planting in the upland fringe on black grouse and breeding waders.

The North Pennines is a nationally important area for both black grouse and a suite of breeding waders



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MONITORING CAPERCAILLIE PRODUCTIVITY

by Kathy Fletcher

It is essential to monitor how capercaillie numbers and productivity change in response to the management actions, and to assess the effectiveness of the Capercaillie Emergency Plan published by the Cairngorms National Park and NatureScot in September 2024. Traditionally, teams of pointing dogs have been used to survey forests for capercaillie. However, due to concerns over the possible effect disturbance by dogs might cause, this method has fallen out of favour on some landholdings. Instead, they have switched to using non-intrusive camera traps to monitor capercaillie productivity. Camera traps certainly offer some advantages over the use of pointing dogs, but will almost certainly give slightly different results. To assess the long-term change in numbers it is imperative that the results from camera traps are rigorously compared to results from using pointing dogs. In late summer 2024 the GWCT started a project to compare these two methods in three capercaillie forests and this was repeated in 2025. Once the images from this summer have been processed we will compare the two methods. With the low number of birds now present in these areas, it may take a further year of data collection to ensure a robust comparison. ■

Revised regulations in England make heather burning a last resort over 676,000ha raising concerns about increased wildfire risk.

ENGLAND POLICY ROUND UP

by Henrietta Appleton

Last autumn the GWCT co-ordinated a visit by Defra, the Home Office (then having oversight of the Fire & Rescue Services), Natural England, wildfire experts and grouse moor managers to the Peak District to discuss wildfire risk. This followed a series of workshops last summer convened by Defra and the Home Office to inform a new wildfire strategy at which we felt concerns about fuel load build up were not sufficiently taken on board. The visit highlighted that restrictions on vegetation management were increasing the risk of a severe wildfire and that focusing mitigation purely on the long-term restoration of peatland through rewetting was insufficient, particularly during the restoration phase and where the underlying geology does not provide the necessary impermeable layer.

Given this visit, the announcement on 9 September of an increase in the area covered by changes to the Heather and Grass etc Burning (England) Regulations was a huge disappointment, but not a surprise given the general tenor of the associated consultation. The amended regulations expand the restrictions to all Less Favoured Areas (LFA) and redefine deep peat as 30cm. The regulations took effect from 30 September at which point a licence application form became available (as did the revised Heather and Grass Management Code) with at least a 12-week processing period. That means the earliest possibility opportunity for undertaking prescribed burning on deep peat in a LFA under licence is late December, cutting in half the time period permitted for managing the vegetation (the burning season runs from 1 October to 15 April).

Our response to the consultation focused on the scientific evidence that reducing opportunities to manage vegetation would increase wildfire risk with associated impacts on peat condition, air quality and carbon emissions, reduce water tables through increased evapo-transpiration rates and we pointed out that no evidence had been presented by Defra that the existing restrictions had reduced emissions. In fact, evidence shows that wildfire on peatlands has accounted for up to 90% of total annual UK fire-driven carbon emissions.

In addition, vital Government funded research instigated by an action in the England Peat Action Plan, the UK IDEAL fire project, that would inform such policy decisions is yet to report. It seems perverse to make decisions in relation to the management of our uplands and their resilience before this work is completed.

However, we end on an encouraging note. At the Westminster Hall debate on 30 June relating to Wild Justice's petition to ban driven grouse shooting, 10 MPs from all parties argued against a ban. Many cited the science undertaken by the GWCT to demonstrate driven grouse shooting's benefits to biodiversity and in particular at-risk species like merlin and waders, peatland protection and restoration and wildfire risk mitigation.

Although Government confirmed it has no plans to ban driven grouse shooting, it does not mean the sector can be complacent. Any 'practitioner evidence' that can be collected (wader counts, raptor counts, peat depth monitoring, tick monitoring etc) alongside the GWCT's scientific evidence will help defend your way of life. ■

The visit highlighted that restrictions on vegetation management were increasing the risk of a severe wildfire and that focusing mitigation purely on the long-term restoration of peatland through rewetting was insufficient

GROUSE SHOOT AND MUIRBURN LICENSING IN SCOTLAND – A YEAR ON

by Ross Macleod

Grouse shoot licensing was introduced to Scotland after enactment of the Wildlife Management and Muirburn (Scotland) Act in March 2024. This followed nearly seven years of scrutiny, starting with the Werritty Grouse Moor Management Review in 2017. Grouse shoot licensing and the associated Code of Practice have been in place since July 2024, with delays in muirburn licensing partly reflecting concerns around using NatureScot's national peatland map as a basis for regulatory decision-making under the Code. However its introduction has been delayed further until autumn 2026 to allow time to consider how the licensing process might affect the ability to respond to wildfires. This follows this year's severe wildfires causing extensive damage to Scotland's peatlands.

GWCT research and advisory staff, in collaboration with partner estates, have verified multiple sites where measured peat depths differ significantly from the map, both under- and over-estimating actual peat depth. The 2024 Act prohibits muirburn on land with peat depth greater than 40cm unless under licence. We are in discussion with NatureScot and Scottish Government about the practical limitations of the peat map and other aspects of the Code. As research continues to improve our understanding of moorland ecosystems, it is essential that the regulatory frameworks remain flexible and evidence-led.

To this end, we contributed before and after the passing of the Act to the Grouse Shoot Licensing and Muirburn Code steering groups, convened on Scottish Government's behalf by NatureScot. Even before these groups were established, GWCT developed mobile app recording projects enabling the collation of evidence by keepers and managers to demonstrate compliance with licensing requirements. These cover predator control, species monitoring, muirburn ignition points, medicated grit distribution and other bespoke recording. They provide two pivotal benefits. First, there is always a body of information to show that practitioners are leading on best practice. Secondly, should there be a problem or incident, there is an audit trail to confirm a history of compliance. Over 30 upland estates in Scotland, and some in England, now use this facility. ■

Muirburn licensing has been delayed to the next muirburn season (autumn 2026).

RAPTOR TRANSECT MONITORING

by Ross Macleod

The Werritty Review wanted to see improvement in conservation status on, or around areas of managed moorland, particularly for three key species – golden eagles, peregrine falcons, and hen harriers

Our independent raptor transect surveyors also use mobile app recording for raptor monitoring.

The Werritty Review wanted to see improvement in conservation status on, or around areas of managed moorland, particularly for three key species – golden eagles, peregrine falcons, and hen harriers. This was novel because it sought to identify trends at a specific area level. There were no prior measures of this nature on or around areas of managed moorland.

We consulted the GWCT's biometrics team who recommended setting up 10km long transects, each 10km apart to ensure coverage at an appropriate scale for monitoring rare species with relatively large ranges. We mapped out potential transects across the Southern Uplands, Tayside, Angus Glens and Grampian moorland group areas and discussed them with estates and keepers in these areas. They felt that recording should be carried out by independent surveyors for overall credibility.

The first transect recording started in April 2021, and since then we've organised independent surveying on up to 16 individual transects between April and July each year. Following the 2025 survey season, we now hold more than 2,000 records, covering 16 different raptor species. This remains a long-term project to monitor trends because there will be variations from year-to-year affecting numbers, such as weather impacts and prey availability. We hope that it will build to form a valuable strand of evidence for demonstrating grouse management best practice and licensing requirements. ■

We now hold more than 2,000 records, covering 16 different raptor species including hen harrier, golden eagle and peregrine falcon.

Gamebird health is a critical factor in the breeding success of red grouse.

COURSES

18 DECEMBER – Rodenticide course (Bywell).

2026

17 MARCH – Predation Management training (Bywell).

31 MARCH – One-day Part-Time Keepers' course (Bywell).

27-29 APRIL – BASIS Certificate in Lowland Game Management (Bywell).

Look out for more training dates at gwct.org.uk or email advisory@gwct.org.uk to register your interest.

GROUSE MONITORING SERVICES

by Leah Cloonan

The GWCT has carried out red grouse population and disease monitoring since the 1980s, which has led to a wealth of knowledge and expertise, not to mention the invaluable long-term datasets which this work has created. This puts us in a unique position to help you.

The GWCT Advisory Service offers a wide range of specialist services to help you understand what is happening on your moor and recommend mitigation. Gamebird health is a critical factor in the breeding success of red grouse and our services, from caecal sampling and strongyle worm count analysis to louping-ill blood testing, can provide you with the information needed to make informed decisions. This will help guide your moorland management for a healthy, sustainable and productive population.

With decades of research and best practice development, our work doesn't just give your estate specific insights, but it also contributes to an invaluable wider national dataset which helps us to track regional and national trends. This means we will better understand the driving factors behind successful grouse moor management which is essential for the future of the industry. Not only will you receive tailored advice for your moor, but you will also gain a broader understanding of how your grouse populations compare at a national level.

Working together, we can ensure healthier grouse populations and a sustainable future for the uplands. To find out more about our services, contact us on:

- England: advisory@gwct.org.uk 01425 651013.
- Scotland: scottishadvisory@gwct.org.uk 01312 027670. ■

We can carry out louping-ill blood testing in the field.

© Lucy Marsden

The overall message from the conference was clear: to safeguard a future for grouse moor management, upland estates must work together and do their best to capture as much data as possible, using the latest technology.

COMMS ROUNDUP
by Eleanor Williams

Upland Game Conference

The Upland Game Conference in February saw gamekeepers, estate managers, land agents and shooting organisations from across the north of England and Scotland gather in Barnard Castle, Co. Durham, to hear from scientists specialising in upland research, policy experts and advisors on moorland management techniques.

The overall message was clear: to safeguard a future for grouse moor management, upland estates must work together and do their best to capture as much data as possible, using the latest technology. Long-term, consistent and widespread data will be a driving factor for demonstrating and proving the environmental benefits of grouse moor management and their positive impact on biodiversity and species recovery.

Matt Goodall, GWCT head of education, highlighted the fact that moorland managers had an incredible record of success over decades, in nurturing their grouse populations and maintaining and enhancing moorland biodiversity, but they needed to do more to evidence it.

Moor walks

The upland team attended three walks this year – two in North Yorkshire at Danby (North York Moors) and Telfit (Yorkshire Dales) and Newbiggin and Hunstanworth Estate in Northumberland. GWCT advisors Jennie Stafford and Matt Goodall attended the Yorkshire walks, and researchers Leah Cloonan and Holly Appleby joined together with Jennie to attend the Northumberland walk. They gave detailed scientific updates about the on-going conservation commitments and moorland management on estates in northern England, including the black grouse translocation project, heather beetle recovery, maternal condition in red grouse and more general issues including the situation regarding general licencing.

Methane emissions were measured from sheep in the Yorkshire Dales.

Forage for Ch4nge

Forage for Ch4nge is a project measuring methane emissions from sheep in the Yorkshire Dales, which also gained national TV news coverage. The science team from ITV met with Swaledale farmer Adrian Thornton-Berry, who is leading the project, assisted by the GWCT and other partners.

They filmed the testing phase in which 120 sheep were put into mobile Portable Accumulation Chambers (PAC) on Adrian's farm in Swinithwaite. Each sheep was kept inside one of 12 pods onboard a trailer for 50 minutes while being carefully monitored, and its methane emissions measured. The study is trying to establish if there is a difference in how much methane the traditional Swaledale breed of sheep emits compared with commercial half-bred Texel-cross sheep. Both types graze on the upland landscape forage, and the study is looking at whether there is a way to improve the environmental impact of sheep farming: How can 'fart chambers' help fight global warming? | ITV News.

Guests enjoying the Newbiggin and Hunstanworth Estate walk.

gwct.org.uk/uplandsresearch

(Top) Our black grouse project featured on ITV's News at Ten including interviews with researcher Holly Appleby; (inset) staff also hosted private and public lek viewing events in the spring.

Expanding the range of black grouse

The Black Grouse Range Expansion project featured on the News at Ten – ITV's flagship news programme – back in April describing it as 'a great conservation success'. Science correspondent Martin Shaw went out with GWCT researchers Phil Warren and Holly Appleby, from our upland research team, to experience a lek in the North Pennines from where birds were captured last year. The ITV team were also taken on the same journey these birds went on, over to the release site in the North York Moors, where Holly demonstrated how we could monitor the birds which were fitted with radio-tags: Efforts to bring back one of Britain's fastest declining indigenous birds, the black grouse | ITV News.

Following the news that our translocated black grouse had managed to breed for the first time in nearly 200 years and hatched and fledged at least 12 chicks over the summer, TV crews returned to the North York Moors to report on the success. This time it was BBC Look North – the regional TV news programme – that covered the story and also published it on the BBC News website: Black grouse breed on North York Moors for first time since 1840s - BBC News.

The black grouse project has been the GWCT's most extensively covered work across TV, radio, newspapers and magazines, with more than 40 individual reports since we announced it in 2024.

SCIENTIFIC PUBLICATIONS

Amhad, A.A., Fletcher, K., Hesford, N., & Glendinning, L. (2025). Metagenomics reveals fibre fermentation and AMR pathways in red grouse *(Lagopus scotica)* microbiota. *BMC Microbiology* 25, 520. https://doi.org/10.1186/s12866-025-04280-1.

Baines, D. (2025). Ten years on from a predator removal experiment in the English uplands: Changes in numbers of ground-nesting birds and predators. *Journal of Nature Conservation* 84, 126788. https://doi.org/10.1016/j.jnc.2024.126788.

Barton, M.G., ..., Wright, M.A., et al. (2025). Meta-analysis of predator identity in nest-camera studies in the British Islands. 1–21. https://doi.org/10.1111/ibi.13436.

Baines, D. & Aebischer, N.J. (2025). Helminth gut parasites of black grouse *Lyrurus tetrix* in northern England, their impact on productivity and possible sources of infection. *Wildlife Biology* 1–11. https:// doi.org/10.1002/wlb3.01472.

Fielding, D., Pakeman, R.J., Newey, S., & Smith, S.W. (2025). The impact of moorland cutting and prescribed burning on early changes in above ground carbon stocks, plant litter decomposition and soil nutrient availability. *Ecological Solutions & Evidence 2025*; 6:e70112. https://doi.org/10.1002/2688-8319.70112.

O'Reilly, C., ..., Fletcher, K., et al., (2025). Genetic lag in a demographically recovering carnivore: the case of the British pine marten *(Martes martes)*. *Conservation Genetics 26*, 165–181. https://doi.org/10.1007/s10592-024-01660-4.

Tolhurst, B.A., Wright, M.A., Parish, D.M.B., Nicolai, M.K., Aebischer, N.J., & de Raad, A.L. (2025). Temperature drives inter-annual variation in badger *Meles meles* predation of lapwing *Vanellus vanellus* on Scottish hill-edge farmland. *J. Avian Biol. 2025*: e03436. https://doi.org/10.1002/jav.03436.

Willebrand, T. & Newey, S. (2025). Reaching and implementing the best available knowledge in wildlife biology. *Wildlife Biology*, 262–262. https://doi.org/10.1002/wlb3.01307.

NEW RECRUITS/PLACEMENT STUDENTS

DR ALLAN STOKES, RESEARCH SCIENTIST

I joined the Trust in October to work on red grouse research, primarily the maternal condition in red grouse study. For my master's project, I studied the burrowing seabirds on Bird Island, in the Falkland Islands, developing models that predicted burrow abundance and distribution. I finished my PhD with the University of Inland Norway last year in which I investigated how mountain hare moult timing varies across Norway and how coat colour mismatch is affected by reductions in the number of annual snow days. My new job with the GWCT is the first research position I have held since finishing my PhD and it will be the first time that I have conducted primary research on British wildlife. I'm looking forward to getting involved with fieldwork.

ANDREW CLAY

I am studying earth and environmental science at Lancaster University and since working for the GWCT, my understanding of upland ecology, and scientific research has already been greatly enriched. My interest in the uplands originated from enjoying the local fells near to where I grew up, but working as a beater on grouse moor days sparked my appreciation for the management of the uplands. Participating in projects such as the Black Grouse Range Expansion has highlighted the dire conditions many upland bird species have endured and continue to face. The necessity for more research is very apparent and I look forward to seeing how these projects progress.

RUBY HARMER

I'm studying environmental geography at the University of York and love understanding how flora, fauna, and the surrounding landscape interact, and how this is influenced by humans. This placement has enabled me to gain more knowledge in a hands-on setting and so far I've gained new data collection skills, learnt more about the GWCT's uplands research, and travelled around the gorgeous Scottish moors. I've also been involved with the peat surveys and grouse worm counts and have been lucky enough to join a walked-up day to collect blood and gut samples from red grouse. I can't wait to see what the rest of my placement year has to offer.

OLIVIA MILLER

I'm studying biology and geography within the natural sciences programme at Durham University. I've developed a particular interest in birds, fungi, and the ecology of species reintroduction – particularly beavers. I'm also very interested in sustainable farming and how this links with game management and the work of the GWCT. So far I've enjoyed working for the advisory team carrying out peat surveys and worm counts. I'm looking forward to getting involved in the research, especially the raptor and invertebrate surveys.

WHO'S WHO

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ADRIANA DERMETZIS

I am currently studying environmental science at the University of Sheffield. My passion for nature has grown living near the Peak District and its wide landscapes, helping to develop my keen interest in wildlife and conservation. Through this placement, I have already expanded my skills, such as conducting woodland surveys and undergoing invertebrate identification training. I am really looking forward to experiencing first-hand the translocation of black grouse to the North York Moors and seeing these upland bird species up close.