Grey partridge NEWS

A report to all those interested in grey partridge conservation Issue 4: Winter 2005

Introduction

I am sure that working with grey partridges, either as a gamekeeper, landowner, land manager or scientist has always been interesting, and never more so than at the present time. The future possibilities presented by the Entry Level Scheme (ELS) for the conservation of the species should be beneficial. The Game Conservancy Trust's Partridge Count Scheme (PCS) continues to grow and now has almost 2,000 registered participants. This shows that there is an enthusiastic body of people that want to conserve grey partridges, who are collectively responsible for managing almost one million acres of land. Additionally, the number of regional partridge groups and management training days that we are holding continues to increase. Appropriate land and game management can help partridges and this is highlighted by the work at the Royston study site which, despite a relatively poor breeding season, had an increase in autumn grey partridge density. On a national scale, an analysis of long-term PCS data shows that areas with partridge-friendly management are reversing the trend, and have in recent years increased partridge numbers, whereas the BTO national bird monitoring data still show that partridge numbers are declining. However, we must not be complacent, as shooting will undoubtedly still be accused of being harmful rather than beneficial, particularly when large-scale rearing is involved. By looking at National Gamebag Census (NGC) data we show that there may be some truth in this, so we encourage anyone involved with shooting or land management to take part in the PCS and the NGC, attend a regional partridge meeting or management training day, and read this newsletter.

Stephen Browne
Grey Partridge Ecologist

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News in brief

New information website launched
A new website, created and maintained by the UK's leading farming and wildlife conservation organisations, including ourselves, will be launched soon. The site, which can be viewed at www.farmwildlife.info will provide a discussion forum for farmers and advisors, and provide advice and case studies on the new ELS options.

Grey partridge factsheets
We have produced five factsheets to provide advice on how to help restore wild grey partridges to your farm. The sheets, which provide information on how to provide nesting, brood-rearing and winter cover and advice on predation control have been circulated to all PCS participants. If you would like further copies please contact Lynn Field on 01425 651025.

Predator control reprint
The ever-changing legal framework has meant that our *Predator Control* green guide has now been reprinted, with the essential legal details updated to January 2005. The guide costs £12.95 + £1.95 P+P and is available from the Game Conservancy Limited's Sales Centre, 01425 651003.

Partridge conference
An international conference on gamebirds, focusing particularly on partridges and quails, will be held on the 31 May to 4 June 2006 at the University of Georgia, USA. Primarily aimed at scientists, the conference will also have a general appeal to all interested in partridge management and conservation. For further details visit the conference website at: http://gallus.forestry.uga.edu/QuailVI/

Special thanks to all those individuals, gamekeepers, landowners and estates, who have contributed to the Partridge Count Scheme.

THE GAME CONSERVANCY TRUST

Pheasant/redleg releasing and the grey partridge decline

Given the alarming decline of the grey partridge, it is inevitable that shooting should come under the spotlight. There have been calls from some quarters for the grey partridge to be taken off the quarry list. We firmly believes that this would be a mistake, because partridges are most abundant where wild stocks are conserved for shooting. In such places, partridges are managed carefully so that they breed and survive better than elsewhere, giving more partridges because of, and not despite shooting.

Nevertheless, in areas of driven shooting based on released pheasants and redlegs, wild grey partridges can be caught up in the drives and suffer unsustainably heavy losses (see *Review of 2001*, page 53). Thankfully, these losses can be minimised by taking specific precautions on shoot days. A list of 'golden rules', and information about shooting and grey partridge conservation generally, are available from us in a free leaflet *Conserving the grey partridge* (see page 5).

We used the National Gamebird Census to examine trends in grey partridge bags in relation to releasing, by classifying shoots into three categories: wild shoots (based on wild birds only, no gamebird releasing); pheasant shoots (only pheasants released); and mixed shoots (pheasants and redlegs released). We ignored shoots that did not readily fit into these categories or that released grey partridges for shooting.

Over the period 1990-2002, wild shoots produced grey partridge bags that were on average twice as high as ones from shoots that released (see Figure 1 A). This probably reflects the higher partridge density on estates managed specifically for wild grey partridges than on shoots reliant on releasing.

Grey partridge bags declined over time in all three shoot categories, but the rates of change differed between them (see Figure 1 B). Over 10 years, the lowest rate of decline was 54% per year on wild shoots, followed by 64% on mixed shoots. Both of these differed significantly from the 83% decline in grey partridge bags on pheasant shoots.

On a positive note, the observed declines can be the result of an increasing awareness of the plight of the grey partridge, and of deliberate attempts not to shoot them. A more negative view is that the bags reflect abundance, and that grey partridges are declining even on areas where they are conserved. If so, the rate of decline matches the national trend of -55% reported by the British Trust for Ornithology, from its Common Birds Census over the 10-year period 1990-2000. This is disappointing. The greater decline on pheasant shoots may be the result of landscape changes arising from the planting of woodland for pheasants. For mixed shoots, the decline was not much greater than on wild shoots. The implication is that nationally the impact of inadvertent grey partridge losses during drives of released redlegs is relatively slight, maybe because it is largely offset by habitat management that benefits greys as well as redlegs.

Nevertheless, the results underline the need for estate managers and shoot organisers to be aware of the on-going plight of the grey partridge. There is no room for complacency, and when numbers of grey partridges are low, it is especially important to adopt measures that minimise their losses during drives of released redlegs and pheasants. Please spread the word, and impress this upon your friends, neighbours and guns.

For more information please contact Dr Nicholas Aebischer on 01425 652381 or email: naebischer@gct.org.uk For more details on joining the NGC please contact Gillian Gooderham on 01425 651019.

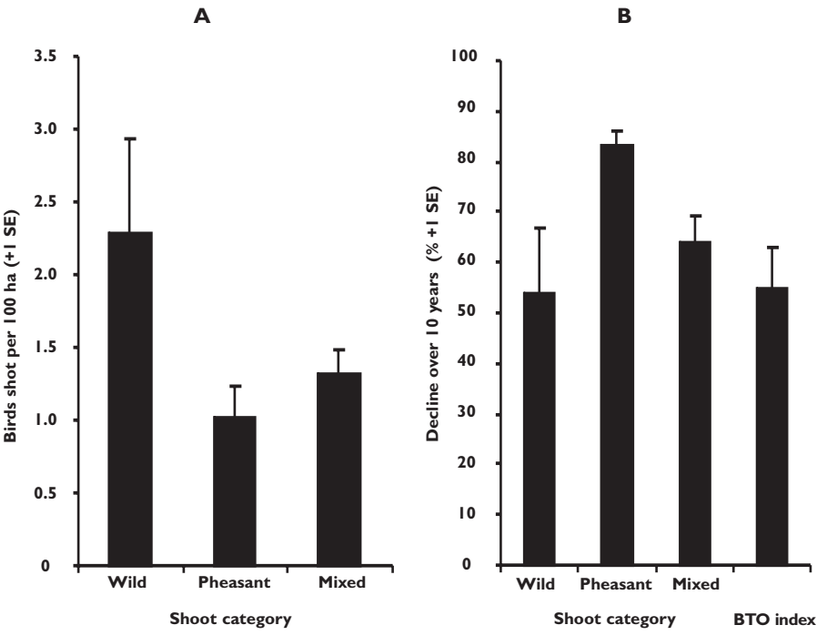


Figure 1

Average bag size (A) and percentage decline in bags over 10 years (B) for the grey partridge, calculated using data from 1990-2002. The national decline in abundance measured by the BTO is given for comparison (right).

Grey Partridge Recovery Project update (Royston)

The Grey Partridge Recovery Project at Royston has just completed its third year with encouraging results. The demonstration area consists of about 1,000 hectares of farmland where the recommendations arising from our research, shown to benefit grey partridges, is being applied.

Signs were encouraging for a good year for the grey partridge on the demonstration area when the 2005 spring count revealed 11.2 per km² pairs, compared with 2.9 when the project began. Post-harvest counts this year revealed a total of 607 grey partridges (206 old and 401 young) plus 583 redlegs and 612 pheasants.

Wild game production has been affected by the usual ups and downs of the English summer, and the 'pot luck' of the annual crop rotation, which can have a positive effect when there is a good mix of winter cereal, spring cereal and various breakcrops. It can be negative, as in this year, with large blocks of rotational set-aside that were then sprayed off in mid-May. However, nearly every cloud has a silver lining, and rotational set-aside is no exception, as it is very good for hares and skylarks and there were lots of both at Royston! There has also been a lot more raptor activity this year. Apart from the normal buzzards, kestrels and sparrowhawks, we have had marsh harriers present for most of the summer.

The target of 18.6 pairs of partridges per km² looks achievable in 2007, if the increase in the spring pair density on the demonstration area continues at a rate similar to that observed so far (see Table 1). Red-legged partridges (and pheasants) have also increased on the Royston area. This provides some shooting on the area for participating farmers (four shoot days are planned this season). Noting the presence of a large adjoining released red-legged partridge shoot, it is important to point out that the young red-legged partridges produced each autumn are not released birds and will have had to rely on the habitat available for food and protection (see Table 2). The increases in grey partridges on the demonstration area, in the presence of this red-legged partridge shoot, demonstrates that co-existence between commercial shoots and wild shoots is perfectly possible in the wider countryside.

Since the beginning of the project supplementary feeding has been provided from autumn to late spring on the demonstration area, at a rate exceeding two feeders per pair. Steady habitat improvement to the site throughout the study period, making use of set-aside and the Countryside Stewardship Scheme (CSS) to restore nesting and brood-rearing cover, has meant that by 2004 the amount of brood-rearing habitat available through the use of wildlife mixtures, low-input or spring-sown cereals, some set-aside and game-cover crops amounted to 10% of the demonstration area, with 18% of the demonstration area available as nesting cover (beetle banks, new hedgerows, etc). In 2005, CSS areas have again expanded and with the new ELS coming into operation, more habitat improvements can be expected in 2006.

Table 1

Number of grey partridges counted on the demonstration area of the Grey Partridge Recovery Project in spring

Spring	Grey partridges (pairs per 100 ha)	Red-legged partridges (pairs per 100 ha)
2002	2.9	4.9
2003	5.1	6.6
2004	8.0	13.2
2005	11.2	18.9
Target	**18.6**	**18.6**

Table 2

Number of partridges counted on the demonstration area of the Grey Partridge Recovery Project in autumn

	Grey partridges		Red-legged partridges	
Autumn	**Y:O**	**Density (birds per 100 ha)**	**Y:O**	**Density (birds per 100 ha)**
2001	0.6	7.6	0.3	15.7
2002	3.0	28.8	1.1	18.5
2003	2.9	29.0	2.2	42.0
2004	2.7	53.4	1.2	43.9
2005	1.9	60.8	0.9	58.4

The Partridge Count Scheme

The results from the Partridge Count Scheme in autumn 2005 are summarised in Table 3. The number of estates refers to the number that returned any information, even zero counts. The average young-to-old ratio was calculated from estates where at least one adult grey partridge was counted. The average autumn density is from those estates that reported the area they had counted. The number of sites registered with the scheme has increased from 1,690 in 2004 to 1,873 in 2005, and the national distribution of grey partridge reproduction is illustrated in Figure 2.

The mixed late summer weather across the UK delayed harvest in many areas and returns have been slow as many have had to wait for the harvest to progress. However, following our first reminder, the return rate tripled to an average of 15 returns per day, with 30 a day following the final reminder. The number of sites submitting autumn counts still remains low in comparison to the number that submit spring counts. In the spring of 2005, 977 counts were returned (58%), while in the autumn of 2004 only 567 returns from 1,690 mailed were received, (34%). We currently have 831 (43%) returned this autumn, with more to come. It will benefit participants if they measure the breeding success of their birds over the summer, and (for some) into the shooting season. An autumn count can help identify habitat or management factors that may be limiting the increase of grey partridge numbers on the property. Spring counts alone only measure breeding abundance and so indicate winter survival and an area's potential for nesting. Autumn counts measure breeding success (both nesting and brood-rearing), and the numbers of birds going into the winter, ready for the following year's spring count. They also indicate, if an estate plans to shoot partridges, where they fall in relation to the first 'Golden Rules for Game Shooters', recommending no shooting in areas where the autumn density is less than 20 birds/km² or to such an extent that the density of birds going into the winter is less than 20 birds/km².

At the time of printing, the total number of greys counted is up on last year from 23,364 in 2004 to 37,934 in 2005. With an average density of 17.9 birds per 100 ha in 2004 and currently an average of 21.7 birds per ha in 2005, overall densities this year appear slightly up on last year. This is very encouraging, especially with the continued increase of new participants, many of whom have low starting densities(see page 7). The highest density so far recorded in 2005, at the farm level, was in Kent with 190 birds per 100 ha (247 acres). Although densities are generally up, the young-to-old ratio for most regions are down on last year, except for Scotland. The general trend towards higher production in the north of England and south east Scotland is obvious in Figure 2.

Finally, thank you to everyone who helped us to expand and correct our mailing information. Now we will be able to provide information more effectively to all participants in the count scheme. To keep interested individuals and participants in our schemes up-to-date, we plan to expand the list of those receiving copies of the summary counts, factsheets, newsletters and future material.

For more details please contact Neville Kingdon 01425 651066 or email: nkingdon@gct.org.uk

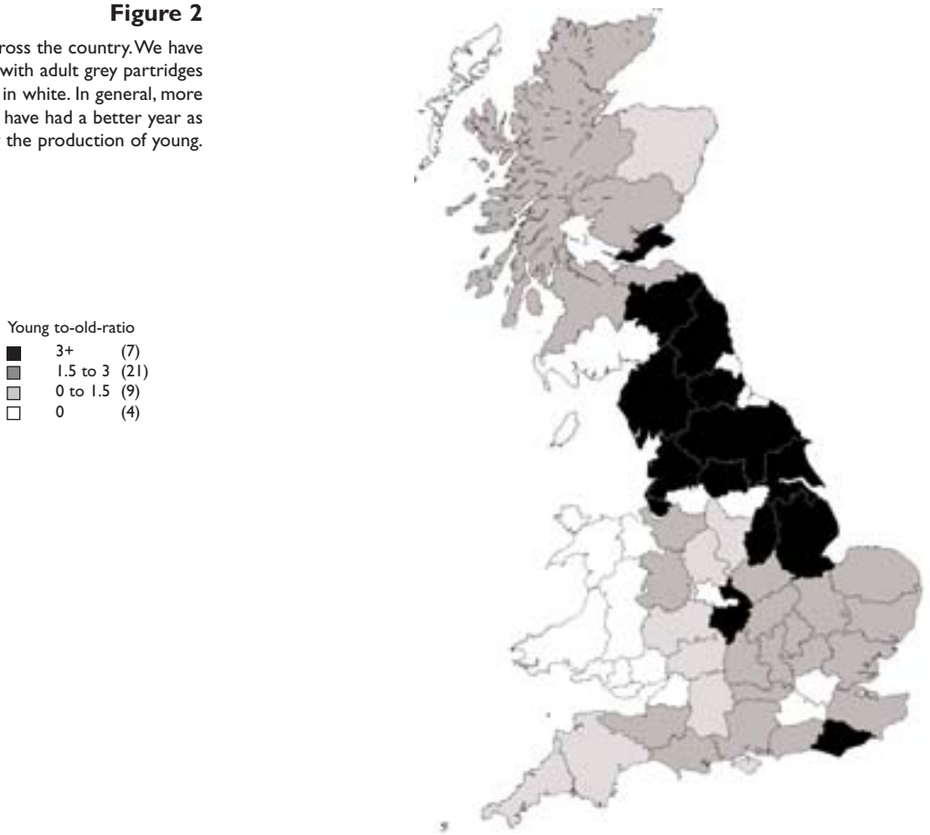
Table 3

Results from the Partridge Count Scheme for autumn 2004 and 2005

Region	Number of sites		Young-to-old ratio		Autumn density (birds per 100 ha)	
	2004	**2005**	**2004**	**2005**	**2004**	**2005**
South	89	142	2.4	1.7	10.9	13.5
Eastern	149	227	2.5	2.3	21.0	29.7
Midlands	108	152	3.0	2.0	14.2	16.7
Wales	1	2	-	-	0	0
Northern	118	166	3.1	3.0	24.6	23.2
Scotland	102	142	2.4	2.5	15.6	21.1
Overall	**567**	**831**	**2.7**	**2.3**	**17.9**	**21.7**

Figure 2

Young-to-old ratio across the country. We have received no counts with adult grey partridges from the counties in white. In general, more northerly counties have had a better year as measured by the production of young.



The importance of identification and shoot management

A noticeable proportion of returns to the PCS this autumn appear to have 'perfect' coveys made up of exactly one male and one female plus a number of young. These counts are a bit suspicious. Although it can be difficult to sex/age grey partridge coveys, it is beneficial if you can do this. Misidentifying the composition of each covey, or assuming that a covey automatically has one cock and one hen will result in incorrect analysis that is of little use. This incorrect analysis will result in misconceptions as to how well your birds are doing, masking potential habitat, management or predation problems that you may not be aware of. By keeping an eye on your birds throughout the year you should be able to improve your identification (ID) skills. If anyone has access to a shoot, one way of seeing the sex differences up close is to look at grey partridges which have been shot. Although we do not endorse shooting of greys to aid your ID skills (this would be a waste of breeding potential), if birds are available for close inspection we recommend that you take the opportunity to examine them. Also use our basic partridge ID guide available to download from our website at www.gct.org.uk/partridge

Everyone who shoots gamebirds (wild or reared) where there is even one pair of wild grey partridges, should read the five golden rules for game shooters. This will help to protect against accidental loss and potential local extinction of any remaining wild birds. For a copy of the golden rules see our *Conserving the grey partridge* guide for details or via the related links at www.gct.org.uk/partridge

A female grey partridge.

70+ years of monitoring grey partridges

The PCS is a repository of volunteer information collected on the annual abundance and breeding success of the grey partridge, based on counts of pairs in spring and young and old birds in autumn. The earliest data available in the count scheme are autumn counts from 1933 (see Figure 3). Spring counts did not begin in earnest until after World War II in 1948, really taking off in the 1960s (see Figure 4). It is obvious that the number of both types of counts, after the highs in the 1960s, stayed around 100 - representing 100 count areas or estates - until after 2000, when the number of counts expanded dramatically. This coincides with the launch of the grey partridge Biodiversity Action Plan (BAP) and reflects the expansion of the scheme to include areas interested in grey partridge conservation, recruited as part of our role as lead partner for the partridge BAP.

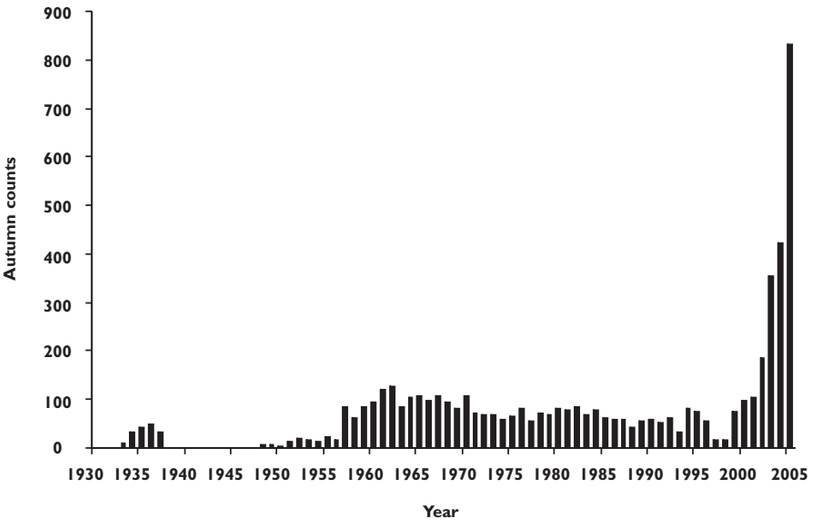


Figure 3

Number of returns of autumn counts held within the PCS database. The recording of stubble counts took place before the war in 1933, with the highest number of counts taking place recently.

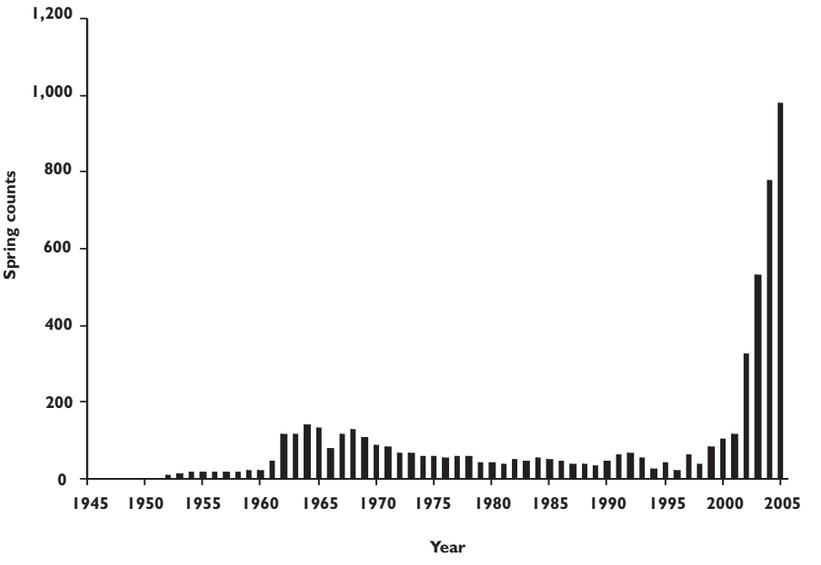


Figure 4

Number of returns of spring counts held within the PCS database. Recording of spring pairs began in 1948, with the highest number of returns (978) in the current year.

Trends in measures of grey partridge abundance and production.
Traditionally spring counts have been used to measure the general abundance of grey partridges as spring pair density (SPD - number of pairs per square kilometre (100 hectares or 250 acres)). In the analysis of trends that follows, we have split the data into two groups, those areas who have been long-standing members of the PCS (likely to be interested or have been interested in the past in shooting grey partridges in a sustainable manner) and those who have recently joined the scheme, ie. since 1999. As well as dividing the areas into two groups, we have restricted the data used to those estates or areas that have submitted more than one count and controlled for the effect of estate-by-estate variation.

Spring pairs
It is only possible to calculate spring pair density on those estates where an area has been recorded. This has restricted the data available for spring pair densities from 1952 to the current day. The long-term decline in grey partridge density is well-illustrated in Figure 5. There is some room for optimism in the densities from 2001 onwards, with an upwards trend in the annual mean density for both the long-term and recent contributors, although the long-term contributors have a higher density than the recent contributors.

Young-to-old ratio
Measures of each year's production of young partridges are calculated from autumn counts, using either young-to-old ratios (YTO) or chick survival rates (CSR).

Young-to-old ratios are easily calculated by simply dividing the number of young counted by the number of old birds and are preferred in the case when the number of broods (coveys containing young) are small. In this analysis we used young-to-old ratios as especially some of the newer contributors have reported few broods in their counts. Young-to-old ratios reflect not only the survival of chicks post-hatching (CSR), but also the loss of eggs and entire broods. In order to get an accurate picture of the young-to-old ratio it is necessary to correctly identify the number of adults and young in each covey - an important consideration when undertaking autumn counts. It is possible to calculate young-to-old ratios only where old birds were actually counted, so the analysis is restricted both to where there were old birds and to estates that have returned more than one autumn count. It is interesting to note that after several years of declines (1992 to 1998), starting in around 1999, the YTO did show some signs of increasing in the long-term contributors, although the last two years have not been that spectacular (see Figure 6). It is important to realise that to keep the number of partridges on an estate steady, the number of young produced for every adult must be greater than one in order to replace birds lost over the winter and as adults in the summer. Limiting this loss, through legal predator control and habitat management designed to keep birds at home, should still allow the spring pair density to increase, even in years such as the current one, where the production of young is less than the highs seen in 2001 to 2003.

This article is based on work done by Hugues Santin-Janin, a French student on placement as part of his MST (Maîtrise de Sciences et Techniques) at The Game Conservancy Trust this past summer. If you have any questions regarding this analysis, please telephone Julie Ewald on 01425 651005 or email: jewald@gct.org.uk

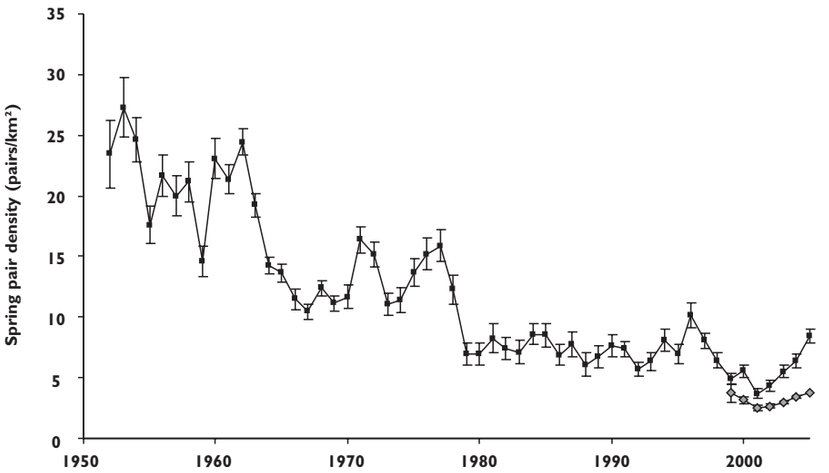


Figure 5

Changes over time in the average spring pair density on estates in the PCS. Long-term contributors are in black, recent contributors in grey.

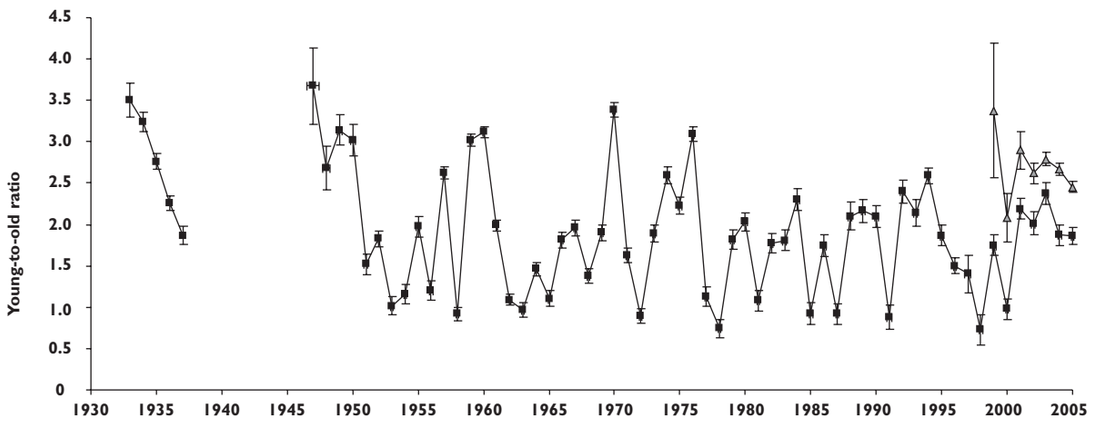


Figure 6

Changes over time in the average annual young-to-old ratio on estates in the Partridge Count Scheme. Long-term contributors are in black, recent contributors in grey.

Regional round-up

We believe that getting people who are interested in grey partridges together to discuss the latest research, management ideas and to demonstrate agri-environmentally sensitive farming in action at a regional level, is a great way to help improve the conservation status of the species. We encourage you to attend meetings in your local area and, if you would like to form your own regional group, please contact Stephen Browne (see box) who will put you in contact with your local organiser. All PCS participants within the catchments of the local groups will be contacted in advance of the meetings and invited to attend. An important recent development this year has been the holding of a number of management days. These events, which are generously sponsored by Saffery Champness, aim to show how, under the new ELS schemes, habitats can be created to benefit grey partridges.

Cotswolds
A management day for the Cotswold group was held in late October.
This group, under the chairmanship of Mark Tuffnel, plans to hold two meetings each year at Calmsden Manor. If you would like to attend or require further information please contact Neville Kingdon on 01425 651066 or email: nkingdon@gct.org.uk

Lincolnshire
The South Lincolnshire Grey Partridge Group, which currently has around 40 members, meets in the spring and autumn each year at Leadenham and plans to hold a farm walk this autumn. For further information please contact Neville Kingdon on 01425 651066 or email: nkingdon@gct.org.uk

Norfolk
The Norfolk Partridge Group meets bi-annually, usually in May and October at the Visitor's Centre at Sandringham. Those interested in joining the group should contact the Chairman, the Earl of Romney (01533-636292) or Dr Stephen Browne (01760-756417 / 07788-628173).

Northumberland
The latest grey partridge group launch was successfully held in Northumberland in early October. Over 50 people attended the launch held at Alnwick and chaired by His Grace, the Duke of Northumberland. Illustrated talks from Mike McKendry on how to make the most of the new ELS to create habitats for grey partridges were followed by a tour of the new wild grey partridge beat on the estate to look at the habitats that have been created and to discuss predator control with the beat keeper. If you would like to attend or require further information please contact Mike McKendry on 01830 520835 or email: mmckendry@gct.org.uk

Wessex
In mid-October, the Wessex Grey Partridge Group held a management day at West Woodyates, courtesy of The Hon. Tim Palmer to learn of the opportunities presented by ELS for habitat creation. The Group, chaired by Sir James Scott, aims to hold two meetings per year. For more details please contact Neville Kingdon on 01425 651066 or email: nkingdon@gct.org.uk

Grey partridge management days are kindly sponsored by Saffery Champness CHARTERED ACCOUNTANTS

Members of the Wessex Partridge Group on a grey partridge management day at West Woodyates.

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For more information on our grey partridge research and further copies of this newsletter, please contact:

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