GBFSnews



The newsletter for participants in the BTO Garden Bird Feeding Survey

Number 5 **July 2013**

Record breakers

The winter of 2012-13 will live long in the memory of garden birdwatchers. Your sightings have revealed the way in which many familiar birds turned to feeders in record numbers amidst the topsy-turvy conditions.

elcome to the latest issue of GBFS news. Last winter yielded many exciting observations and we are delighted to share them with you here. Perhaps your personal highlight was the sheer volume of birds that visited your garden feeders. Indeed, several species - including Coal Tit, Long-tailed Tit, Siskin, Lesser Redpoll, Woodpigeon, Great Spotted Woodpecker and Jay - were logged in unprecedented numbers. The GBFS has been running for 43 winters, so such records are not easily broken.

Perhaps your highlight was the ebb and flow of activity across the recording period. Overall 'busyness' was particularly heightened during autumn, the snows of January and the cold of late winter, but things were notably quieter over the festive period. Every week was different, with poor natural feeding conditions and variable, sometimes extreme, weather moulding our garden bird communities.

Maybe your highlight was the diversity of birds that you recorded last winter or the thrill that you felt when a particularly unusual

garden guest appeared. In total, 87 species were recorded from 277 GBFS sites last winter - 81 at rural plots and 72 at suburban ones. These included rare visitors to garden feeding stations, ranging from Garden Warbler (Isle of Man) and Willow Warbler (Kirkcudbrightshire) to Cormorant (Dyfed) and Coot (Wiltshire).

As always, our highlight at BTO HQ is seeing your wonderful records arrive through the post. With the help of dedicated volunteers, your data are processed and computerised. We then have the exciting, privileged job of producing the first graphs; observing in concrete, scientific terms, the story at garden feeders over the last winter. It is our great pleasure to undertake this work in partnership with you and to share these important results through GBFS news. Very many thanks again for your valuable efforts.

David Glue and Tim Harrison



The number of Coal Tits seen at garden feeding stations reached an all-time high last winter.

Review of winter 2012–13

Last winter was a real roller-coaster for GBFS recorders. Poor seed and fruit crops during October and November saw many birds turn to garden feeders but the frenzy subsided over the relatively mild festive period. Come mid-January, however, feeders were heaving once again as snowfall preluded a cold winter ahead. David Glue and Tim Harrison reveal more.

Cool rhythms

very winter has a unique rhythm. Cold snaps, which cause a sharp rise in the number of garden birds seen, vary in their timing from year to year. Less commonly, such snaps become protracted – extending not for days but for weeks at a time – during which time activity at garden feeding stations can become particularly intense. Behind the scenes, a further factor influences the makeup of our garden bird communities: natural food availability. When natural foods are scarce, feeders become an essential port of call.

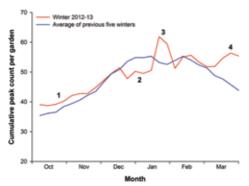


Figure 1. Cumulative peak count of all species combined, averaged per garden. See text for details.

Figure 1 represents overall activity at GBFS sites last winter and how this compares with the previous five-year average. In particular, four phases stand out:

- 1. More activity than normal during October and early November.
- 2. A lull during December and early January.
- A sharp peak of activity in mid to late January.
- 4. Much higher counts than normal through March.

Busy autumn

For many birds, autumn 2012 was a time of real food scarcity. Seed, nut and fruit crops in the wider countryside were patchy and generally very poor, causing many species to look to garden feeding stations for alternatives. One bird that particularly stood out was the Nuthatch (Figure 2).

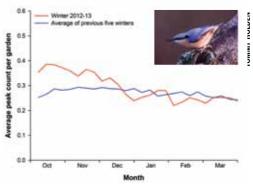


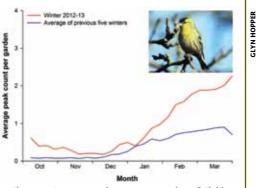
Figure 2. Average peak count per garden of Nuthatch.

In October, counts of Nuthatches in gardens were 35% higher than the five—year average for the month. This discrepancy diminished during November and early December and counts were similar to the five year average for the remainder of the recording period. This pattern could be explained by mortality as winter approached or by individuals relying on feeders during autumn but following a more normal pattern of utilising caches and feeders during mid to late winter.

Another bird that was really making its presence felt at garden feeders last autumn was the Great Spotted Woodpecker. Counts were 29% higher during October and November than

Sensational Siskins

If there is one species that defined winter 2012–13, it has to be the Siskin. Overall GBFS counts of this attractive finch were more than double the previous five–year average, and were up by a quarter on the previous winter record (1993–94) as key winter seeds, such as those of Sitka Spruce, birch and Alder, proved scarce. It has been proposed that winter feeding has supported their rapid breeding population increase. As new nesting areas are colonised south of their traditional Scottish strongholds, more garden birdwatchers are enjoying seeing Siskins during spring and summer.



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Figure 3. Average peak count per garden of Siskin.

the five-year average for these months and 14% higher for the remainder of the GBFS recording period. Previous research using GBFS data shows that Great Spotted Woodpeckers utilise garden feeders more when beechmast crops fail and these results highlight again the sensitivity of this bird to fluctuations in natural seed availability.

Many other birds whose use of garden feeders is linked to natural seed availability were more numerous at GBFS sites last autumn. Notable examples were Great Tits and Coal Tits. In these species, GBFS counts last autumn were 13% and 47% higher than the previous five—year average, respectively. Coal Tits, in particular, generated lots of interest as they busily collected and cached seeds from feeders. The scarcity of natural foods, notably key

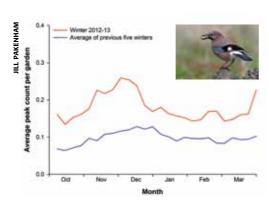


Figure 4. Average peak count per garden of Jay.

conifer seeds and forest mast, also encouraged the early appearance of Brambling and Lesser Redpoll into gardens – both being species that normally join the party later in winter.

The species that appeared to attract the most attention last autumn, however, was the Jay (Figure 4). For many GBFS participants, Jays are a rare and treasured sighting – their pink and azure plumage providing welcome colour on a winter's day. During a typical autumn week in 2007–11, only around one in 20

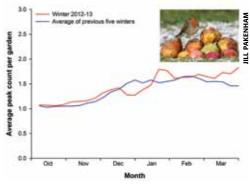


Figure 5. Average peak count per garden of Robin.

GBFS participants spotted a Jay. Last winter, however, this figure was around one in eight; Jay numbers were perhaps swelled by continental migrants. Overall, Jays were more abundant at GBFS sites last winter than in any previous year of the survey, with birds noted on the move across the country.

Festive Iull

After the frenzied activity of autumn, the festive period was somewhat quiet by comparison. UK temperatures during the latter part of December were slightly above the 1981–2010 average and were palpably warmer than some of the very icy Decembers experienced of late. With the struggle for survival less intense, garden bird activity dipped. A few species were particularly notable by their absence compared with recent years – among them the festive Robin (Figure 5).

Being territorial throughout winter, Robins rarely register a count at GBFS sites much above one. The average is always somewhat higher than this, of course, because gardens might sit between territories, because of territorial intrusions and because Robins pair up during late winter. Severe weather conditions can also cause GBFS counts of Robins to rise, as territories dissolve temporarily and individuals focus on survival. Over the festive period, however, the relatively mild conditions enabled more Robins to defend their own patch, with average counts staying closer to one. Sure enough, when colder conditions took hold in late January and March, counts of Robins rose above the five-year average, with groups of 5-6 observed feeding together at a few sites.

The milder conditions also favoured thrushes, such as Song Thrush, resulting in lower counts at GBFS sites over the festive period than in recent years. Counts of this elegant bird last winter were, on average, 29% lower than the previous five—year average. In part, this difference can be explained by this species' worrying and continued decline but the discrepancy was especially marked around the turn of the year, when counts were more than 75% lower. Dunnocks, too, were less abundant over the festive period than in recent winters, with GBFS counts down by an eighth.

Like Song Thrushes, Starlings continue to provide cause for concern. GBFS counts this winter were 38% below the five—year average and, while their numbers normally pick up during December, this year they remained relatively flat. Overall counts of Starlings reached their lowest point in the history of the GBFS last winter, with numbers falling to less than a quarter of those recorded in the 1970s.

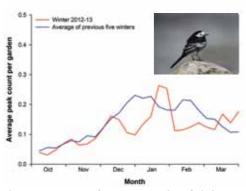


Figure 6. Average peak count per garden of Pied Wagtail.

January snow

Mid-January delivered widespread snowfall and brought a flurry of birds into gardens. Fieldfares, for example, which had been relatively 'quiet', with GBFS counts comfortably below the five-year average, appeared en masse. Between the w/c 6th Jan 2013 and the w/c 13th Jan 2013, numbers recorded at GBFS sites increased more than 100 times over, as they sought offerings from generous householders. Redwings, surprisingly, did not follow suit to anything like the same extent and, on the whole, were spotted much less frequently in gardens over the course of last winter than over recent years.

One of the less talked about GBFS visitors is the Pied Wagtail (Figure 6). It makes regular cold-weather movements into gardens and, last winter, counts of this species could almost have been used instead of a thermometer. During the relatively mild conditions at the turn of the year, Pied Wagtails were scarcer at GBFS sites than in recent years but when freezing conditions descended in January and March they swept back into gardens in search of their preferred food supplements – fats, small seeds and breadcrumbs.

Last winter saw overall counts of Woodpigeon reach yet another all-time high. This portly guest is known to use feeding stations more often when seeds such as beechmast are scarce in the countryside and so it was no surprise to see elevated counts of this bird during autumn 2012. Following the now familiar festive dip,

counts of Woodpigeon rose once more and peaked during the January snowfall. Sightings of Woodpigeons at GBFS sites remained above average for the remainder of the recording period as cold easterly winds prevailed.

The icy path to spring

March 2013 was truly exceptional, with average UK temperatures colder than in any of the three preceding months. It was the second coldest March on record, tied with 1947 and beaten only by 1962. No March has ever been colder in the 43-year history of the GBFS and levels of garden bird activity were noticeably up on the longer term average.

Blackcaps showed a really interesting pattern (Figure 7). Normally their numbers at GBFS sites peak in February and drop throughout March. This year, however, they reached their highest level right at the end of the recording period. We think that two processes are likely to have been at work. Our wintering Blackcap population was probably delayed in migrating back to their breeding grounds in central Europe because of the challenging weather conditions; meanwhile any of our summer population arriving here for the breeding season will have found natural foods very thin on the ground. For both cohorts, garden feeders could well have proved a lifeline.

March also brought big numbers of Chaffinches into gardens. Usually their

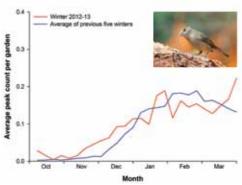


Figure 7. Average peak count per garden of Blackcap.

numbers at GBFS sites drop through February and March as individuals move towards their breeding areas. This year, however, their presence at GBFS sites remained more constant over this period, reflecting immediate pressures on survival. Pleasingly for garden birdwatchers, the late arrival of spring meant that Chaffinches, Bramblings, Reed Buntings and others were often seen at feeders in their full breeding finery. Among the larger birds that were also turning to gardens for help were Black-headed Gulls, which make predictable movements to garden feeding stations when water bodies freeze and there is snow on the ground. Their numbers at GBFS sites were two thirds higher in March 2013 than the fiveyear average for the month.

Ups and downs for Blackbird

Blackbirds take natural seeds and fruits as part of their diet during autumn, which probably explains their higher than average use of garden bird foods in October and November 2012. Following a big festive dip, Blackbirds surged back into gardens in January when some huge flocks were logged at GBFS sites, including: 41 in Northumberland (Michael Holmes); 35 in Lincolnshire (Nicholas Watts); 27 in Warwickshire (Mary Lindsey); and 26 in both Cumbria (Mr Kirby) and Derbyshire (Peter Walker). Blackbirds were also spotted more frequently than normal throughout March, as bitter conditions persisted.

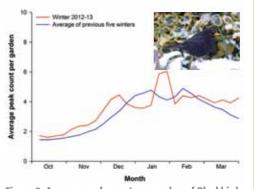


Figure 8. Average peak count per garden of Blackbird.

JOHN HARDING

Garden Bird Feeding Survey Results Winter 2012 - 2013

Top Twelve Species

Species	Plots	%	Species	Plots	%
Robin	277	100.0	Coal Tit	258	93.1
Blackbird	274	98.9	Greenfinch	253	91.3
Blue Tit	274	98.9	Woodpigeon	241	87.0
Great Tit	272	98.2	Collared Dove	239	86.3
Chaffinch	271	97.8	Goldfinch	238	85.9
Dunnock	270	97.5	House Sparrow	228	82.3

Additional Species

Species	Plots	%	Species	Plots	%
Long-tailed Tit	224	80.9	Black-headed Gull	46	16.6
Starling	214	77.3	Tree Sparrow	43	15.5
Magpie	198	71.5	Goldcrest	42	15.2
Great Spotted Woodpecker	184	66.4	Mistle Thrush	35	12.6
Siskin	176	63.5	Redwing	33	11.9
Jackdaw	156	56.3	Herring Gull	32	11.6
Sparrowhawk	152	54.9	Marsh/Willow Tit	32	11.6
Song Thrush	145	52.3	Reed Bunting	31	11.2
Wren	124	44.8	Stock Dove	31	11.2
Nuthatch	109	39.4	Yellowhammer	31	11.2
Carrion Crow	108	39.0	Treecreeper	19	6.9
Brambling	106	38.3	Grey Wagtail	15	5.4
Pheasant	101	36.5	Moorhen	14	5.1
Jay	99	35.7	Mallard	12	4.3
Pied Wagtail	85	30.7	Common Gull	10	3.6
Blackcap	84	30.3	Red-legged Partridge	10	3.6
Bullfinch	81	29.2	Buzzard	9	3.2
Rook	77	27.8	Green Woodpecker	9	3.2
Fieldfare	65	23.5	Kestrel	9	3.2
Lesser Redpoll	59	21.3	Chiffchaff	8	2.9
Feral Pigeon	50	18.1	Lesser Black-backed Gull	8	2.9

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Species	Plots	%	Species	Plots	%
Grey Heron	7	2.5	Canada Goose	1	0.4
Waxwing	7	2.5	Common Redpoll	1	0.4
Red Kite	6	2.2	Common Sandpiper	1	0.4
Merlin	4	1.4	Coot	1	0.4
Raven	4	1.4	Cormorant (new to GBFS)	1	0.4
Barn Owl	3	1.1	Garden Warbler	1	0.4
Hooded Crow	3	1.1	Green Sandpiper	1	0.4
Tawny Owl	3	1.1	Hen Harrier	1	0.4
Water Rail	3	1.1	Lesser Spotted Woodpecker	1	0.4
Great Black-backed Gull	2	0.7	Little Owl	1	0.4
Linnet	2	0.7	Mandarin Duck	1	0.4
Meadow Pipit	2	0.7	Rock Dove	1	0.4
Ring-necked Parakeet	2	0.7	Short-eared Owl	1	0.4
Swallow	2	0.7	Snipe	1	0.4
Woodcock	2	0.7	Teal	1	0.4
Arctic Redpoll	1	0.4	Willow Warbler	1	0.4

Number of sites recording: 277

Key ingredients of winter 2012-13

1. Wet, cool summer 2012: poor breeding season for many tits, thrushes and finches – fewer first-year Blue Tits, Blackbirds and Starlings to garden feeding stations.

- 2. Poor pollination in spring and summer 2012 sees yields of soft fruits, notably apples, pears and plums, lower than normal. Less windfall fruit for birds in autumn and winter.
- Reduced forest mast, including Beech and Sitka Spruce, and patchy hedgerow berry crops: many finches
 moving to garden seed dispensers earlier in year than expected, including Brambling, Lesser Redpoll and
 Siskin.

Chronic shortage of forest seeds and Rowan berries across much of northern Europe: huge movements of finches and tits some moving to UK via

southern Sweden.

Shortage of natural seeds and nuts sees much caching of garden offerings by Jay, Nuthatch and Coal Tit. Grey squirrels also a frequent sight.

 Bitter cold snaps in January and February with snowfall: many Blackbirds and Fieldfares, but fewer Redwings visiting garden feeding stations. Another good year for seeing Waxwings around gardens, car parks and industrial estates!

 A few unseasonal nesting attempts in gardens by St Valentine's Day, featuring Tawny Owl, Robin, Collared Dove and Woodpigeon.

 Exceptional cold March heralds huge influx of birds into gardens, with spring migration delayed and most nesting activity suspended. Conflicting motivations make life especially tough: seasonal hormonal changes encourage birds to sing, acquire mates, get into breeding condition and nest – not just survive.

Focus on: Long-tailed Tit

There are few more enchanting sights for garden birdwatchers than a busy flock of Long-tailed Tits drifting through a garden, gleaning invertebrates and tumbling onto feeders as they pass. With Long-tailed Tits having reached record counts in the GBFS last winter, David Glue and Tim Harrison wanted to find out more.

he view from a kitchen window has changed remarkably over the last few decades, with the decline of several species but rise of many others. One of the biggest winners is one of our smallest garden visitors - the Long-tailed Tit. Back in the 1970s and 1980s, GBFS data show that these delicate birds were largely absent from garden feeding stations over the winter months. The percentage of sites visited tended to increase during December and peak around February but, even then, during a typical week fewer than 5% of sites were frequented (Figure 9).

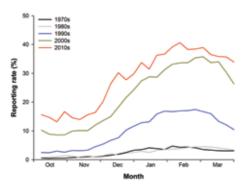


Figure 9. The percentage of GBFS sites visited by Long-tailed Tits, averaged by decade.

It was not until the 1990s that things really began to pick up. Breeding populations of Long-tailed Tits rose during this period and the upward trajectory has continued since. Numbers are knocked back by prolonged spells of harsh winter weather and so the general pattern for milder winters over this period is likely to have boosted their numbers. Moreover, Long-tailed Tits have enjoyed increased productivity per



breeding attempt over recent decades. So, there are more of these delightful birds around and, doubtless, this has promoted higher GBFS counts.

Another possible explanation for the success of Long-tailed Tits in gardens is that, over recent decades, we have been steadily providing a wider range of foods that are suitable for them. This species is more selective than other members of the tit family at garden feeding stations – its small beak precludes it from handling large seeds (although it will peck at peanuts behind a mesh feeder) and so individuals focus instead on fats, small seeds, peanut chips, breadcrumbs and grated cheese. Suitable foods have become more widely available over the years, supporting garden colonisation by Long-tailed Tits.

Getting together and breaking up

Your GBFS records also reveal fascinating information about the social biology of these birds. During autumn and into mid-winter, Long-tailed Tits travel in flocks, which often comprise of parents and their offspring from the previous breeding season, plus any extra adults that helped to rear the brood. During late

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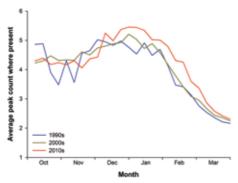


Figure 10. Average peak count of Long-tailed Tits at GBFS sites from which the species was recorded – sites and weeks where the species was not recorded are excluded. Data from the 1970s and 1980s have been omitted due to the small number of sites at which this species was seen.

winter, these flocks break up and pairs form. These processes are illustrated beautifully at garden feeding stations, as your GBFS records show (Figure 10).

Group living has many advantages. Individuals are less likely to be singled out by a predator – a strategy that Long-tailed Tits might find is enhanced by flocking with additional species, such as other tits, Goldcrests and Nuthatches, during autumn and winter. Long-tailed Tits also benefit from their sociability when it comes to roosting. Being tiny, they chill rapidly but by roosting together in dense vegetation – their bodies sandwiched together into a tight line, tails pointing outward – their survival chances are greatly improved.

Travelling in a group also helps individuals to learn about feeding opportunities. Flocks will encounter novel food sources – such as a new food or feeder in a garden – as they rove around, and, upon seeing a flock member tucking in, others will usually follow suit. It is interesting to consider how such a positive feedback effect, whereby increasing numbers of Long-tailed Tits using garden feeders leads to even more coming to feed, has influenced the upward GBFS trend for this species since the 1990s (Figure 9).

Although Long-tailed Tits breed cooperatively, with individuals helping at the nests of relatives, every bird will initially try to find a mate and

each pair will go it alone (it is only when a nesting attempt fails and it is too late in the season to re-nest that members of a pair may become helpers). Long-tailed Tits nest earlier in the year than other tit species, with pairs separating from winter flocks from the beginning of February. It is from around this point that average numbers of Long-tailed Tits seen together at GBFS sites decline (Figure 10). Pairs may form from members of the same winter flock, although females often disperse to find males from a different flock, which reduces the risk of inbreeding. In late winter, large flocks will only re-assemble at dusk as individuals prepare once more to roost.

Rural retreat

Long-tailed Tits show a preference for rural GBFS sites over suburban ones throughout most of the recording period. Given their tiny size and their susceptibility to succumb to cold winter weather, one might expect this to be the other way around, with individuals moving into towns and cities where conditions are that bit warmer. One possible explanation might lie in the dietary preferences of this bird. Over winter, the natural diet of Long-tailed Tits continues to consist mainly of invertebrate foods and it is likely that these are more abundant in rural areas. Moreover, they tend to nest in rural habitats, so after the turn of the year it is perhaps unsurprising that rural gardens are favoured.

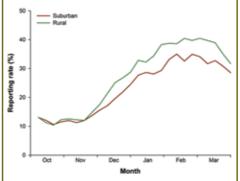


Figure 11. The average percentage of GBFS sites visited by Long-tailed Tits over the past decade.

Extracts Winter 2012–13



Little Missenden, Buckinghamshire (Dec): Red Kite (2) swooping down to snatch dead chicks provided, also enjoyed by Magpie (max 7).

Fremington, Devon (Dec):

Newly arrived male Blackcap enjoying fat balls, chasing away Robin and Blackbird vigorously.



Gee Cross, Cheshire (Feb): Meadow Pipit, Treecreeper and beautiful Woodcock are trio of fresh feeding birds – a delight, what a joy.



Braunton, Devon (Mar): Brambling and Chiffchaff feeding in late March - a fitting close to weekly

recording.





Leamington Spa, Warwickshire (Mar): Robin (6) feeding amicably side by side at bird table during biting easterly winds and snow flurries.

Llanwrda, Dyfed (Nov): Lesser Spotted Woodpecker graces peanut holder, a real treat.



Alcester, Warwickshire (Feb): Snow brought mayhem – Blackbird (27) and Fieldfare (6) fighting over apples, Redwing (1) prefer suet

pellets.



Stamford, Lincolnshire (Feb): Waxwing (31) taking windfall apples in snow.

Stapleford, Cambridgeshire (Oct): Red-legged Partridge (3) come down for seeds, initially landing on roof of our house.



Tewkesbury, Gloucestershire (Mar): Worrying absence of Greenfinch throughout period (10-15 birds regular before).



Ellon, Aberdeenshire (Jan): Buzzard killed Woodpigeon on site and flew off to a tree to devour it.

Inverlochy, Invernessshire (Oct): Siskin (max 20) are very tame, reluctant to leave seed dispensers whilst refilling.



Testwood, Hampshire (Oct): Woodpigeons (2) are the bully boys, monopolizing feeding activity.





Theale, Somerset (Oct): Acres of flooded farmland, result of wettest calendar year on record locally, have brought Reed Bunting (2) first time to feed in the garden.



Forfar, Angus (Nov): Maximum of 15 Coal Tits feeding at any one time, but a four hour ringing session netted 34 extra birds: no wonder seed dispensers need daily replenishing.

Yorkshire (Feb): Pheasant (32) and Chaffinch (31) dominate in heavy snow and biting wind chill.

Walbottle, Tyne and Wear (Dec): Long-tailed Tit flock of 26 birds the largest ever to visit garden - feed together on seed, fat and nuts. Tree Sparrows (max 12) are a real bonus.



Hexham, Northumberland (Jan): Chaffinch (53), Blackbird (41) peak in late January snows, Fieldfare, Mistle Thrush and Yellowhammer also tucking in.





Edinburgh (Mar): Carrion Crow pulling on suspended wire to draw up fat block.



Weston, Suffolk (Nov): Barn Owl hunting voles and songbirds around feeding station. Jay eats peanuts from squirrel feeder hanging by one leg, lifting the lid with the other, to peck at contents.

Workington, Cumbria (Nov): Finches are eating peanuts just as freely as sunflower hearts this year, latter the preferred item in recent winters, perhaps reflecting beechmast shortage.

Lyndhurst, Hampshire (Feb): Birds feeding all day long in snow on anything we can provide: Blackbird (20), Chaffinch (22), Coal Tit (10), first ever Jay and Mistle Thrush.



Radlett, Hertfordshire (Dec):

Ring-necked Parakeets (max 12) arrive noisily at feeders and even Great Spotted Woodpeckers cannot safely find a space.

Looking ahead: Winter 2013–14

After an unusually late onset to the 2013 breeding season and mixed weather conditions throughout, it is difficult to know how birds will be faring as we enter the winter months. GBFS data from last winter highlight the importance of garden feeding stations to birds when times are tough and also the value of your observations in furthering our understanding of such stresses. We look forward to working with you over the coming winter and hearing about your exciting observations.

GBFS sites from which data were submitted in 2012-13



BTO Garden Bird Feeding Survey



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GBFS has been monitoring the numbers and variety of garden birds coming to supplementary foods in winter since 1970. It is the longest running annual survey of its kind in the world and allows direct comparison of garden types and locations over time.

The GBFS Team

Tim Harrison: GBW Development Officer Clare Simm: GBW Development Officer David Glue: BTO Research Ecologist Fran Bowman: Data Assistant Mike Toms: Head of Garden Ecology Donna Hobbs, Heather Pymar and Nicky Ward: Garden BirdWatch Team

A special thank you to Alic Prior and Fran Bowman for their invaluable help with data entry. A special mention also for Mrs Elsie Glue, a GBFS recorder from the inception of the survey until last winter, who recently passed away.

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