

## CLOSER TO HOME

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*Mike Toms, organiser of the BTO/CJ Garden BirdWatch, reports on its first 10 years.*

### MÁS CERCA DE CASA

*Mike Toms, organizador del programa de observación de aves en jardines del BTO/CJ, informa sobre los primeros 10 años del programa.*

The BTO/CJ Garden BirdWatch is a fascinating project, now with 10 years of excellent data. It is the largest yearround mass participation study of garden birds anywhere in the world.

### EXTENSIVE HABITAT

Within the UK, private gardens represent an important habitat for many bird species, occupying somewhere in excess of 500,000 ha. Results from the BTO/JNCC/ RSPB Breeding Bird Survey (BBS), demonstrate that human residential habitats (in which gardens are the primary resource) support important populations of many bird species. Understanding how birds use gardens, particularly in the context of changing bird populations in other habitats, is therefore of tremendous importance and a national scheme to monitor garden birds can make a valuable contribution to our overall understanding of bird populations within the UK.

### THE HISTORY OF GARDEN BIRDWATCH

The idea behind the BTO/CJ Garden BirdWatch project arose from discussions between Nigel Clark and the late Chris Mead, both of the BTO,

and Chris Whittles of CJ WildBird Foods. Earlier attempts to monitor garden bird populations at the regional level, such as the Garden Bird Enquiry, had always encountered the problem of funding the scheme for more than a couple of years. If we were to look at long-term trends in the use made of gardens by birds, then what was needed was long-term funding. This problem was solved by making what was regarded at the time as a very brave decision — namely to ask participants in the scheme to make an annual contribution towards its running costs. It must have been with some trepidation that the BTO first asked its supporters if they would take part in the project and make a contribution towards costs. However, such is the generosity of BTO supporters that, by the end of the first year of recording, some 5,028 participants had become involved.

Since then, Garden BirdWatch has gone from strength to strength and, with continued growth in the numbers of participants, there has been an associated growth in the resources and range of technologies employed to administer and develop the scheme. There are currently over 17,000 participants in the scheme and in any given week we receive observations from about two thirds of them.

## THE GARDEN BIRDWATCH METHOD

Garden BirdWatch gathers information in a way that makes it possible to measure relative change in the use birds make of gardens. This approach is similar to that behind other long-running BTO projects and it is particularly suited to large-scale projects covering a wide range of species at many different recording locations. The sheer size of Garden BirdWatch imposes some constraints on the way in which data may be collected and on the type of research questions that can be addressed. Fortunately, the type of information gathered can be readily coded onto special forms that can be scanned by a machine capable of optical mark recognition.

Garden BirdWatchers are asked to record birds using their gardens, making records from the same place (their defined 'recording area') at more or less the same time or times each week. Continuity of recording effort is more important than the quantity of recording. Nearly 25% of active Garden BirdWatchers submit their weekly observations over the Internet by using Garden BirdWatch Online. Online participation offers greater flexibility in the terms of the range of information being collected and also enables individuals to enter and view all their own data (including those originally submitted on paper forms). In effect, Garden BirdWatch Online acts as an electronic notebook for the observer. Observations are validated as they are entered and the information is then loaded automatically onto the Garden BirdWatch database. Overnight, various computer scripts run to generate web pages containing summary tables, scrolling maps and reporting rate graphs, so the online results are always up to date.

## THE SCIENTIFIC VALUE OF GARDEN BIRDWATCH

The wealth of information gathered through Garden BirdWatch is being used to answer a wide range of different ecological questions about the ways in which birds use gardens and how this use may change over time.

The weekly recording allows us to look at seasonal patterns in the use made of gardens by

different species at different times of the year. Most of these patterns, such as the spring peak in Goldfinch reporting rate (Figure 1) or the autumn trough in Blackbird reporting rate, are consistent from one year to the next, something that we have commented on previously in *BTO News* (see issue 244) and which can be seen in the reporting rate graphs presented online ([www.bto.org/gbw](http://www.bto.org/gbw)). Other patterns highlight the subtle differences between years that result from the weather and from variations in food availability. Take last autumn for example, an abundance of wild fruit and tree seeds meant that garden feeding stations have been especially quiet over recent months, noticeably so when compared with 2003, and all the more pronounced because of the spell of mild weather in many areas.

We might expect such seasonal patterns to vary between different types of gardens, perhaps because of where they are located (rural vs urban) or because of the features present within the garden itself. An examination of the average seasonal reporting rate for a common species like Robin (Figure 2) shows differences between habitats, being highest in rural gardens and lowest in urban habitats. In all three types of garden there is a similar seasonal pattern, although the magnitude of the summer trough is more pronounced in urban and suburban gardens than rural ones — a clear indication that, while urban and suburban gardens may provide appropriate resources during winter, they provide less suitable habitats for breeding birds. For an urban species like House Sparrow, the pattern of reporting rates is reversed across the three garden types.

We have also been looking in more detail at the way in which birds may respond to habitats in and around gardens. The results of this work, published recently in the journal *Ecography* (Vol 26: 589–600), have highlighted that the likelihood of many species occurring in gardens is dependent on the surrounding local habitat rather than on the habitat features present within the garden itself. By understanding the factors that make gardens more attractive to birds, we may be able to make recommendations about ways in which we can improve the quality of the human environment for wildlife. It is also worth noting that urban bird communities are becoming of increasing

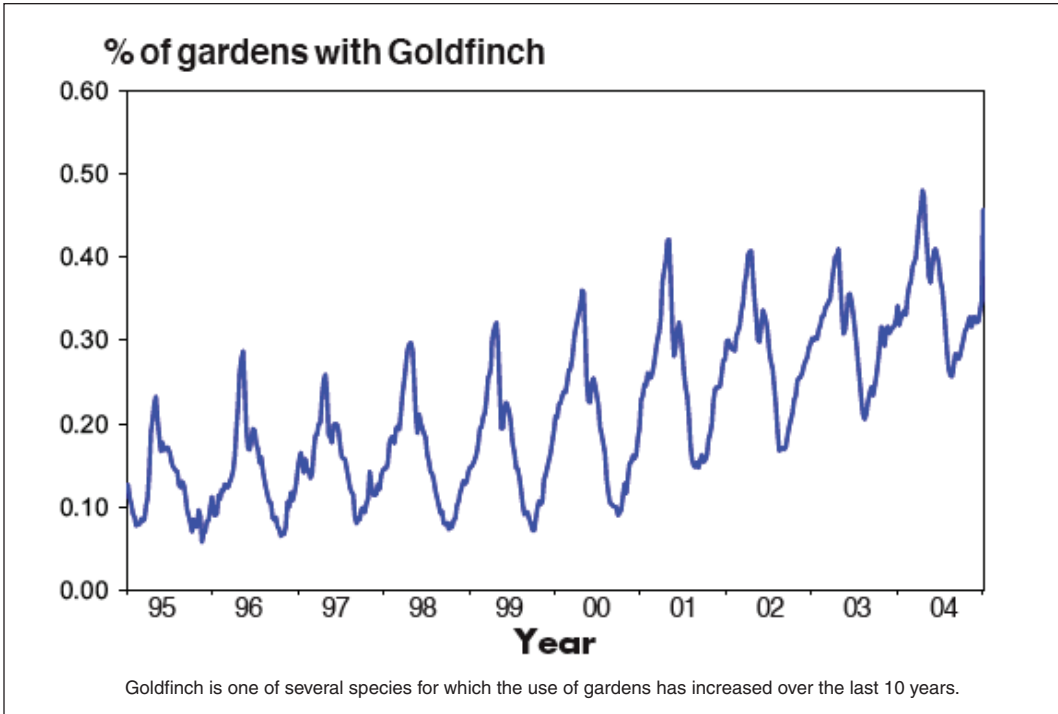


FIGURE 1. Use of Gardens by Goldfinch.

interest to conservation biologists, in part because of concern over urban encroachment into other habitats, but also because we are becoming increasingly aware of the size and value of bird populations within human habitats. In fact, another recently published paper (Bland et al. 2004 \*) stemming from the efforts of BTO/CJ Garden BirdWatchers, has caused us to re-evaluate the importance of gardens for supporting breeding populations of many species.

Longer-term patterns are equally important, not least because they may reflect changes in the population sizes of those bird species using gardens. However, it is worth noting that change in the use made of gardens may also reflect changes in behaviour, migration patterns and/or food abundance. Teasing out these different factors would be difficult if Garden BirdWatch existed in isolation. Fortunately, we have information from other BTO schemes and, collectively, this puts us in a strong position to look at changes in garden use and how this may relate to population change in other habitats.

An analysis of trends in Garden BirdWatch reporting rates over the last 10 years has been

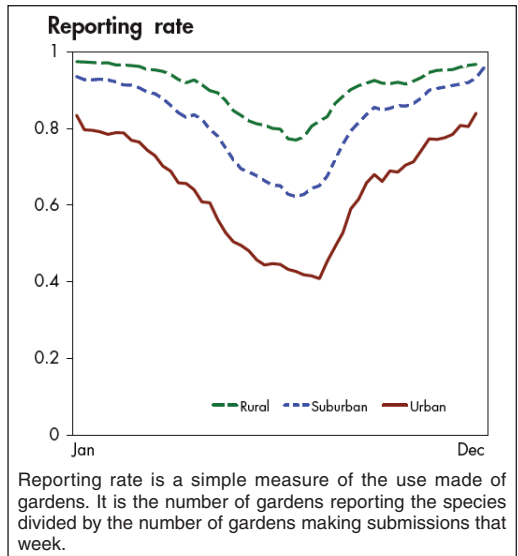


FIGURE 2. Annual patterns in the use of gardens by Robin.

completed and is currently in the process of publication within a leading journal — more evidence of the scientific value of mass-participation surveys like Garden BirdWatch.

### THE FUTURE OF GARDEN BIRDWATCH

Garden BirdWatch is all about getting involved and gathering scientifically robust and valuable information. The sheer size of Garden BirdWatch allows us to ask questions at the regional level, something that is very important if we are to address the issues of regional differences in the decline of species like House Sparrow and Starling. The question has sometimes been asked as to how big should Garden BirdWatch be. Well, we are currently able to produce robust reporting rate trends for

virtually all of the Government Office Regions. What we want to do next is to get ourselves into a position where we can produce such trends at the county level. We can already do this for some of the larger counties: *e.g.* Norfolk (718 gardens), Hampshire (655 gardens), Greater London (1,031 gardens), Suffolk (584 gardens) and Kent (485 gardens) but we really need to recruit more Garden BirdWatchers in many other counties, for example, places like the Isle of Wight, Pembrokeshire, Durham and the West Midlands. If you, or someone you know, has an interest in garden birds, then Garden BirdWatch could be just the project to support. With your help, Garden BirdWatch looks set to enjoy another decade of success.

\* Bland R L, Tully J, Greenwood J J D. 2004. *Bird Study* 51:96–106