

Migration Watch

Title

Migration Watch 2002-2004
(became popularly known as migwatch)

Description and Summary of Results

There has long been an interest among birdwatchers in migrant birds and especially their arrival in the spring. Indeed the arrival of such as the Cuckoo *Cuculus canorus* has often attracted a much wider interest than among birdwatchers alone. Most of the particular emphasis has been directed at first records of the spring, but there has been rather little information available as to when the majority of each species arrives or over what period this normally happens. For many years, the Bird Observatories have collected reasonably systematic and consistent data on the numbers of each species seen in their recording areas on each day through both spring and autumn migrations, but the majority of these sites are on islands or on headlands and birds may be simply passing through rather than necessarily being arrivals of any British or Irish breeding populations. Certainly the numbers present on any one day are often highly dependent on the local weather over the preceding few hours. Since the early 1990s or so in particular there was a renewed interest in this whole subject of the timing of natural events such as migrant arrivals, and some of this interest was fuelled by media attention on the possible effects of global climate change.

This interest prompted the idea for Migration Watch, recording the arrival of migrant birds in the spring. Following it, other organisations, most notably the Woodland Trust, picked up the principle of how to set about such a project and have set up websites to record this phenology over several years, including such as the emergence of butterflies and of mammals from hibernation, and the flowering and leafing out of trees.

The ideal way of doing this would be to have daily, or at least regular, counts from a number of randomly selected sites from all across the country. Such a survey, although using sites selected by the observers rather than random ones, was tried in the early 1960s as the Inland Observation Points Scheme. This however very quickly became swamped with data which at the time were unusable as there were no quick ways of analysing such information. The advent of computers and especially the Internet has changed this and made most of the process of acquiring and analysing the data more or less automatic. The BTO set up Migration Watch to use this technology only. The purpose was to obtain some useful information on the arrival of spring migrants, but also as a trial of the technology to see how feasible such would be, both as to whether enough data would be collected and as to whether such an approach would be accepted by observers. In the event all worries were amply vindicated and the survey both proved popular with observers and produced useful data. And the BTO has gone on to use the technology very successfully for several other surveys.

After three successful springs (2002 to 2004) of data collecting the scheme and the technology resources were extended with the survey becoming a year-round means of collecting bird records, and it was renamed BirdTrack. This in turn has developed

extensively and now provides data on such as winter visitors and with the departure of migrants as well as continuing with spring arrivals.

One advantage of using the Internet and therefore observers inputting their own records is that the data are immediately available for analysis albeit that the records have not been fully verified. Migration Watch took advantage of this and provided immediate feedback of results to observers and everyone else. An observer could look at their own results as soon as they were input but every night some analyses were undertaken on the results to date and were made available as a series of graphs, tables and maps of occurrence, the last including some animated maps showing all records each week through the season. These last proved especially popular as the course of the arrival of each species could be seen. Some of the data were analysed within 16 regions of the UK as well as overall. As more data accumulated comparisons could be seen between years.

Methods of Data Capture

All records were input directly by the observers using a specially written application on the Internet which was connected to an Oracle database for storage.

Observers were asked to register before contributing any records. Then observers were asked to contribute lists of species seen and to specify where (identified to 10-km square and often 1-km square) and when. There were two lists supplied: a) a "short list" of the commoner migrants -- this was aimed especially at novice birdwatchers and those less confident of identifying everything; and b) a "long list" of all migrants and a small selection of resident species was added to this – and a complete list of species encountered could be added as well.

Observers were asked ideally to record all the species they saw (or heard) on their visit to their location and they could add counts of birds if they wished. Immediately they had submitted their records they were asked to confirm these. If they had recorded any species in an unusual place or on an unusual date, or if they had recorded an unusually high count this was flagged specifically for checking, amounting to a basic validation by the observers themselves to remove obvious mistakes and typing errors.

In addition to providing complete species lists observers could also submit casual observations of individual species although these records could be not used for some of the analyses.

For the results generated automatically each night and available to be seen the primary measure of a species's abundance on a day (or longer period) was the proportion of complete lists submitted on which the species was recorded. Maps of distribution though also included casual records.

Purpose of Data Capture

To obtain records of spring migrants through the migration season to determine the main arrival period of each and to compare such between species and years.

Geographic Coverage

All of Britain and Ireland although data from Ireland were relatively sparse.

Temporal Coverage

The spring migration period of 2002, 2003 and 2004. More specifically records were requested from mid February to the end of June in each year.

Other Interested parties

The survey was set up as a joint project of BTO with BirdWatch Ireland.

The main sponsorship came from Northumbria Water and Essex & Suffolk Water. Other funds came from the BTO Swallow Appeal and specifically the John Spedan Lewis Charitable Trust, the Leslie Morley Carter Charitable Trust, the Salter Charitable Trust, and the Elsie Mary Elkes Charitable Trust.

The web application was developed by the BTO Information Systems team (specifically Iain Downie and Karen Wright) with help from Sean Newell, Martin Fulford and in particular Stuart Hudson (then of Magik Circle).

Organiser(s)

Dawn Balmer as a BTO staff member.

Current Staff Contact

birdtrack@bto.org

Publications

The main results were, and continue to be, placed onto the Results section of the application website, and updated at regular intervals. (Results from Migration Watch are incorporated into those for BirdTrack as appropriate.)

A specific formal scientific publication detailing the results for seven common migrant species is:

Baillie, S.R., Balmer, D.E., Downie, I.S. & Wright, K.H.M. 2006. Migration Watch: an Internet survey to monitor spring migration in Britain and Ireland. *Journal of Ornithology* 147: 254-259.

The project was noticed in *BTO News* numbers 237, 238, 241, 242, 244, 247, 250, 252 and 253 and during the project's life there were articles and mentions in many of the popular and semi-popular birdwatching magazines.

Available from NBN?

No.

Computer data -- location

All data are in the online Oracle database.

Computer data -- outline contents

Species lists and casual records listed with date and place of observation and the details of the observer recorded.

Computer data -- description of contents**Information held in BTO Archives**

None. The survey was online only and it was not possible to submit paper records.

Notes on Access and Use**Other information needed****Notes on Survey Design**

The web application was deliberately kept as simple as possible to attract as many potential observers as possible. In particular the list of species supplied was kept to a minimum for the same reason although observers were allowed to add as many species as they wished. In the "long list" a few resident species were included as a check of the completeness of lists submitted.

Specific Issues for Analysis