Report to EURING meeting from BTO - 2011

ORGANISATION

The Ringing Scheme in Britain & Ireland is run by the British Trust for Ornithology (BTO). This year has been an exciting one for the Ringing Scheme, with a record numbers of birds being ringed in 2009 and then again in 2010 by a record number of registered ringers. The ringing total surpassed 1 million for the first time in 2010. Due to a number of improvements in database operations, these increased numbers were handled by the same number of staff. Staff primarily involved in the Ringing Scheme are as follows:

Science Director Stephen Baillie
Principal Ecologist Rob Robinson (Modelling)

Demography:
Head Jacquie Clark
Research Ecologist Daria Dadam
Secretary Jane Waters

Ringing Licensing & Sales:
Manager Jeremy Blackburn
Ringing Officer Diana de Palacio
Sales Officer (part-time) Anne Trewhitt

Ringing Data Management:
Manager Bridget Griffin
Ringing Database Officer Dorian Moss
Recoveries Officer Lee Barber
Recoveries Officer Sabine Schaefer

Demographic Monitoring Projects
Senior Research Ecologist Dave Leach
Research Ecologist Greg Conway (Organiser of CES & RAS)
Nest Records Organiser Carl Barimore

BTO RINGING SCHEME OPERATIONS

Numbers ringed	Annual (2010)	1,096,533
Ever (to end 2010)		38,194,820
Numbers recovered	Annual (2010)	17,315
Ever (to end 2010)		703,023
Number of ringers	(2010)	2,628 (proportion professional less than 10%)

Computerisation
Recoveries of all BTO-ringed birds and all foreign-ringed birds received since 1979 have been computerised. Recoveries for all the foreign ringed birds received before 1979 are being input. Data have been accepted electronically since 1996, and ringing captures for over 12 million birds have been received from ringers electronically. 98% of ringing data are now submitted electronically by ringers, with almost all the electronic data received via email. Ringers have been supplied with a free program (IPMR – based

on Microsoft Access) to allow input and submission of ringing and recovery data. The remaining data coming in on paper are now being computerised annually. Recaptures and biometrics are now also collected from ringers electronically. In addition, 61% of all recoveries are received electronically (88% of controls) and for 93% of these electronic ringing details are available.

Recoveries
Recovery processing is up-to-date, thanks to a full complement of staff. About 45% of recovery reports from members of the public are reported via the Web (www.ring.ac), and these data are loaded directly onto the database after checking via a Web-based processing form, developed in 2009. A further Web-based processing form developed in 2010 allows ringing staff to input and edit recoveries. Java software enables BTO to send out recoveries to ringers and members of the public by email, and it is also used to send requests for ringing details of foreign-ringed birds to other EURING schemes and to send copies of recoveries of GBT-ringed birds reported from their countries to other EURING schemes. This has resulted in significant savings of paper and postage costs, while also speeding up transmission of information.

Finance
Ringers pay towards the cost of rings, for equipment and an annual permit fee. Other costs are met from a partnership between BTO and JNCC (Government) and by the BTO. Ring prices are based on current conservation concern of species being ringed and on ringing projects which BTO wishes to encourage. Where all, or most, species which have a particular ring size are of conservation concern the ring price is reduced. If only a few of the species taking a particular ring size are of conservation interest, a refund is given to ringers at the end of the year. Refunds are also given to ringers for birds ringed on Constant Efforts Sites or under the Retrapping Adults for Survival scheme. Refunds are only given for data submitted electronically.

Publications

Annual Report	Published in BTO Ringing Scheme Journal *Ringing & Migration*
Ringing News	Published twice a year
CES News	Published annually
RAS News	Published annually
Ringers' Manual	Latest edition (with major revisions and additions) published 2001
Bird Ringing: A concise guide	Published 2008

BTO RINGING SCHEME RESEARCH – PROJECTS

Constant Effort Sites (CES) Scheme
As catching effort under the Constant Effort Sites (CES) scheme is standardised from year to year, we are able to monitor three key demographic parameters: adult abundance, productivity (a comparison of the number of adults and juveniles caught) and adult survival (using the return rate of adult birds between years). The CES scheme ran for its 28th year in 2010, with data submitted from 120 sites, providing a welcome increase in coverage and the best since 2004. The habitats comprise 34% in dry scrub, 34% in wet scrub, 18% in reed bed and 14% in woodland. Long term trends in survival rates were produced for the first time in 2010.

In 2010, seven of the 24 species monitored showed a significant decrease in adult numbers relative to the mean of the previous five years: Wren *Troglodytes troglodytes*, Dunnock *Prunella modularis*, Robin

Erithacus rubecula, Song Thrush *Turdus philomelos*, Lesser Whitethroat *Sylvia curruca*, Chaffinch *Fringilla coelebs* and Greenfinch *Carduelis chloris*. The decrease in abundance of the six resident species is likely to be associated with prolonged periods of frozen ground and snow cover during the winter of 2009-10. Outbreaks of the disease *trichomonosis* could have contributed further to the reduction in number of Greenfinches. Significant short-term increases in adult abundance were recorded for Reed Warbler *Acrocephalus scirpaceus*, Whitethroat *Sylvia communis*, Blackcap *Sylvia atricapilla* and Long-tailed Tit *Aegithalos caudatus*, indicating good overwinter survival, an unexpected result for Long-tailed Tit given the severity of the previous winter. The productivity of 12 species was significantly higher than the mean of the previous five years, presumably helped by warm, dry weather conditions in 2010.

Retrapping Adult For Survival (RAS) Scheme

The Retrapping Adults for Survival (RAS) scheme, which started in 1998, monitors survival rates, primarily of those species that are less well represented in the CES and general ringing data sets. Each project within the scheme is species-specific, with volunteer ringers attempting to capture the majority of breeding pairs within a defined study area each year to enable assessment of the proportion that return the following season. The number of active projects increased substantially in 2010, to 129. RAS ringers monitored populations of 39 species, of which six are Red-listed in the 2009 publication *Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man*, and a further 21 are Amber-listed. Species covered by the highest number of projects were Pied Flycatcher *Ficedula hypoleuca* (22), amber-listed Sand Martin *Riparia riparia* (14) and Red-listed House Sparrow *Passer domesticus* (8). Of the projects that are currently active, 43 have been running for more than 10 years, with three projects (two on Pied Flycatcher and one on Common Sandpiper *Actitis hypoleucos*) exceeding 30 years.

In 2010, we were able to calculate annual estimates of survival for 39 species, and analysis of these survival trends has also helped to determine the number of recaptures/resightings required to produce reliable survival trends for individual species. A suite of priority species for which RAS methodology is best suited to producing survival estimates has been identified and will be promoted actively to volunteer ringers.

Breeding Birds In The Wider Countryside: Their Conservation Status 2010

This report on bird population trends is available on the BTO Website (**http://www.bto.org/birdtrends**). It includes abundance and productivity trends from CES as well as information from census schemes and nest recording.

BTO RINGING SCHEME RESEARCH – ANALYSES

Improving Demographic Monitoring

Our demographic monitoring and modelling programmes have two main aims: (i) to investigate the demographic mechanisms and environmental causes of population changes in individual species and (ii) to provide measures of cross-species patterns that are indicative of wider environmental change. The latter objective is of increasing importance, and it is therefore important that our demographic monitoring data cover a reasonably wide range of species with respect to ecological and taxonomic groups and population status. During the year we undertook a broad review of the availability of data for each species in relation to the estimation of demographic parameters of the British & Irish population. For most terrestrial species, this will primarily involve breeding populations as these are likely to be faithful to their breeding site each year. Britain & Ireland hold especially significant numbers of breeding seabirds and wintering waterfowl, for which gathering demographic data is also important, both in conservation

and, for some species, management contexts. These species pose different challenges to collecting robust demographic data reflecting their particular life-histories. Common to all groups though will be the need to increase the structured nature of ringing activities in order to be able to undertake such analyses.

Estimating dispersal

Dispersal is a key demographic parameter, but one that has proven difficult to quantify. British and Irish landscapes are highly fragmented, increasing the importance of dispersal in maintaining favourable population status. Knowledge of animal movements and the potential for dispersal will be important in informing future policies on areas designated for conservation purposes. Ring re-encounter data, in particular ring recoveries, have made a large contribution to our understanding of bird movements. However, almost every study based on ring re-encounter data has struggled with the bias caused by both the ringers and finders not being equally spread geographically. Re-encounter probabilities are strongly heterogeneous geographically and over time, especially when the encounters are re-sightings of colour-marked individuals. A workshop was held in Thalkirch, Switzerland to allow experts from across Europe to discuss some of these issues. The development of new technologies, which allow continuous tracking of individuals, also offers exciting possibilities to calibrate more general ring-re-encounter data.

Wintering Warblers

There is an increasing body of evidence that climate change is changing the distribution of birds, with many studies showing birds breeding or wintering further north as climates have warmed. Migratory species may be doubly affected as they move between their breeding and wintering areas. As part of his PhD studies, Greg Conway investigated changes in migration strategy in Chiffchaffs *Phylloscopus collybita* breeding in Britain. Chiffchaffs, in common with Blackcaps *Sylvia atricapilla*, are increasingly occurring in winter in Britain. Birds from different breeding populations can often be identified on the basis of their plumage and biometrics, and these were used to determine whether wintering birds were likely to be local breeders, or had migrated here from further north and east (as appears to be the case for Blackcap). Reports of Chiffchaffs ringed across Europe between 1960 and 2004 indicated that there was a trend for later departure in autumn, whilst spring migration commenced earlier. There was some evidence indicating that a reduction in distance travelled between summer and mid-winter locations had occurred since 1985, in both western and central Europe, which might be a response to climate warming within Europe.

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