



RETRAPPING ADULTS FOR SURVIVAL PROJECT

INTRODUCTION

The Retrapping Adults for Survival (RAS) Project is an exciting national ringing project that started in 1998. The project was launched with BTO funding and was the first major initiative to come out of the new *Scientific Strategy of the BTO Ringing Scheme*.

The objective of the project is to gather retrap information on breeding birds, which will allow us to monitor the survival rates of a wide range of birds in a variety of habitats. Information on survival rates is important because it can help us to understand why bird populations may be changing. Knowing about changes in survival rates of birds is vital for effective conservation action, but all too often this information is sadly lacking.

CHOOSING A SPECIES

What species can I choose?

The RAS project mainly focuses on passerines, near passerines and certain waders. A consideration of bird welfare necessitates the exclusion of any species which are sensitive to disturbance. **Schedule 1 species** will only be included in the RAS Project if the study is an existing long-running project. Species well-monitored by the Constant Effort Sites Scheme (particularly Reed Warbler and Willow Warbler) are lower priority, although studies in areas where there is poor CES coverage are welcomed. Target species should exhibit high-levels of breeding site fidelity from year to year. For some species the extent of site fidelity is unknown (e.g. Grasshopper Warbler) and in these circumstances we encourage ringers to still register these species. You can register more than one species though it would be more useful to catch larger numbers of one species.

We are keen to encourage further studies on the following species:

Seabirds: Manx Shearwater, Eider, Kittiwake, Common Tern, Arctic Tern

Waders: Ringed Plover, Common Sandpiper, Oystercatcher

Hirundines: Sand Martin, House Martin, Swallow

Open ground nesters: Whinchat, Stonechat, Wheatear

Finches, Sparrows & Buntings: House Sparrow, Tree Sparrow, Chaffinch, Linnet, Reed Bunting

Hole nesters: Starling, Pied Flycatcher, Dipper

Other species: Ring Ouzel

How many individual birds do I need to catch?

When RAS was first set up, the target was to catch a minimum of 30 adults each year. Following a review of the RAS Project in 2002, five years after RAS started, we suggest that a minimum of 50 adults is likely to be in order to get good estimates of survival from your study. We used RAS data for Pied Flycatcher to investigate the sample size required to produce good estimates of survival and to detect annual changes in survival. Although increasing the number of adults required for RAS will make it more difficult to include some species within the framework of RAS, it will, however, mean that those studies contributing data are of particularly high value and should produce good estimates of adult survival.

You should aim to catch or retrap a minimum of 50 adults (preferably 50-100) within your defined study area each year. This includes all birds new to the year ie new birds ringed and previous year's retraps. Generally speaking, the higher the retrap rate, the better the survival estimate will be. RAS studies will need to continue for a minimum of 5 years (and preferably more) in order to be able to make a sensible estimate of adult survival. For some species about which we know very little (e.g. Redstart) a smaller sample size may be acceptable. The number of adult birds in your study area may vary from year to year, but you should always aim to catch the majority of the adults that are present.

Do I need to catch both sexes?

Ideally you should aim to catch both males and females, but for some species one sex will be much easier to catch than the other. For this reason, single sex studies will be permitted. For species caught using tape lures it is more likely that males will be trapped than females (e.g. Meadow Pipit), although where nest traps are used you are more likely to trap the females (e.g. Pied Flycatcher).

Do I need previous experience of the species?

Ringers will need to be familiar with the behaviour and sensitivities of their study species, particularly any stages of the breeding cycle when disturbance may cause desertion. For some species it is not safe to catch the female during the laying and incubation period or when small chicks are in the nest. If in any doubt, you must seek advice from Mark Grantham.

CHOOSING A STUDY AREA

Which habitats are suitable?

Sites comprising one main habitat will be preferred (e.g. mainly farmland, woodland, parkland, scrub or moorland). The project should not be carried out on existing constant effort sites without prior agreement with the CES organiser (Mark Grantham).

How big should the area be?

The study area should be large enough to support a good breeding population of the chosen species (at least 25-30 pairs and preferably more). For some species with large or dispersed

territories, a suitably large study area will be required and co-operation with other ringers may help cover a larger area.

CHOOSING A CATCHING METHOD

Which methods can I use?

A range of catching techniques may be employed including mist-nets, spring traps, Potter traps and nest box-traps. Catching methods need to be agreed in advance and any methods known or suspected of causing nest desertions will not be permitted. Whenever possible, the use of nest traps should be avoided.

Can I use different methods for males and females?

Yes. In some cases, different catching methods may be needed for males and females.

Can I use tape lures?

For some species the use of tape lures may be useful, in which case the Ringing Committee's rules (*Ringers' Bulletin*, 2006, Vol. 11, No. 12, page 114) should be followed. Ringers wishing to use tape lures during the breeding season will also need a special endorsement on their permit and should contact Jez Blackburn at BTO HQ.

Can I use colour-rings?

For certain species, colour-ringing and resighting may be easier than retrapping adults and provide more 'retrappings' leading to a better survival rate estimate. However, resighting colour-ringed birds can be a time-consuming activity. Any RAS ringer wanting to use colour rings will have to demonstrate a willingness and enthusiasm for resighting. If you ring with a group, you may be able to persuade other members of the Ringing Group to help with the resightings, or perhaps you could enlist help from the local birdwatching club. Any colour-ringing project will need to be registered; please contact BTO HQ (colourringing@bto.org).

METHODOLOGY

When should I start catching adults?

Ringing should generally take place during the breeding season, which may be as early as March for some species. For example, you could try netting Mistle Thrushes during March. Most fieldwork will take place between April and July, but for some late nesting species such as Bullfinch fieldwork could continue until late August or early September. For one or two difficult-to-catch species, it might be easier to catch the birds outside the breeding season and resight them during the breeding season.

How much effort should I put in?

You should aim to catch, retrap or resight all the breeding adults of your chosen species within the boundary of your study area each year. For species with large territories it may be useful to work as a group so that a large area can be covered. Please record the number of "visits" you make to your RAS study area and if possible estimate the number of hours spent in actually catching birds. A measure of "catching effort" is important when using retrap data in survival rate models. Try to avoid big changes in the amount of effort employed between years. The ideal would be 100% capture rate every year (all adult birds trapped), but a steady capture rate of 70% will be better than a capture rate that varies between say 20% and 95% in different years.

What do I need to record?

It is vital that you record the following variables, as they will form the basis of the submitted data:

- ring number
- date
- presence of BP (and BP score) or CP
- species
- age/sex
- method of capture/resighting

You are encouraged to also record:

- wing length (mm) (max. chord)
- primary moult scores (individual feathers)
- weight (to nearest 0.1g)

BIRD WELFARE

As with all ringing, the welfare of the birds should always come first. Some species are sensitive to disturbance at certain stages of the breeding cycle and no attempt should be made to catch RAS species at these times. If you are in any doubt about the safety of catching adults during the breeding season, or have specialist knowledge that you think we should know about, please contact us at BTO HQ.

HOW TO RECORD THE DATA

Using IPMR

Submitting data electronically is preferable because it is quicker and easier for you and reduces errors that save considerable staff time inputting and checking. The *IPMR Guide to RAS* gives full details of how to computerise your data; a copy is available on the website or from BTO HQ. There is also on-line help in IPMR. You can email your RAS data to ras@bto.org

You will also need to complete an annual Summary Sheet for each of your RAS species. Please return all completed forms and data as soon as possible after the end of the breeding season, and by the end of December at the latest.

HABITAT RECORDING

It is important that we collect some habitat information describing your study area. Please prepare a large scale sketch map of the study site, extending to at least 100 metres beyond the boundary of your area. Using the BTO habitat codes listed in the *Ringling Schedule Instruction Manual* identify the main habitat types and mark them on the map (use as many codes as you wish). In addition, describe the habitat immediately bordering the site (e.g. barley field, suburban gardens, etc) and provide a reference point identifiable on a 1:50 000 OS Map, with its 4-figure grid reference.

ADDITIONAL MONITORING WORK

The value of your study could be increased by carrying out further monitoring work. Knowledge of basic breeding biology and breeding success can be gained by finding active nests and following them through to record the outcome (success or failure). By completing nest record cards (preferably on IPMR) and making multiple visits to each nest we are greatly increasing our knowledge. Nest recording starter packs are available from the Nest Records Officer at BTO HQ.

The *Scientific Strategy of the BTO Ringling Scheme* highlights the importance of achieving adequate samples of ringed pulli. Targeting additional ringling effort towards ringling pulli would, as long as it is safe, be highly desirable. Please remember to include the ring numbers of pulli (and adults if known) associated with each nest on Nest Record Cards.

You might also consider carrying out some simple territory mapping which would help you target your catching efforts more efficiently as well as providing an annual count of males holding territory in your study area.

HISTORICAL DATA

We are aware that many ringers have been carrying out RAS-type studies for many years. We are very keen to include historical data of this kind onto the RAS database so that we can make the best use of ringling data for conservation and research purposes. Please contact us at BTO HQ if you think you might have suitable retrap data to contribute. Both paper and computerised data will be accepted, though computerised data are preferable.

HOW TO JOIN THE PROJECT

If you are interested in joining the project, please contact Greg Conway at BTO HQ or email ras@bto.org requesting a registration form. If you have any queries about the RAS Project, please do not hesitate to ask.