RASnews

The newsletter of the Retrapping Adults for Survival scheme

BTO Looking out for birds

Number 13 **Spring 2013**

PIED FLY FISHING SEE PAGE 8

RAS support rises in 2013

As with many other surveys, the 2012 RAS season was marred by the record-breaking April and June rainfall. Riverine species such as Sand Martin and Dipper were worst hit, four of 14 studies on the former failing to catch any adults due to weather-related desertion of colonies. Despite the conditions, the majority of projects produced some data. It therefore seems an appropriate year to recognise the value this dedication gives to the Ringing Scheme and we are delighted to announce an increase in funding for RAS. From 2012, we are providing reductions in the cost of ringing permits for one person involved in each RAS and introducing project support which will also assist ringers with purchase of the equipment that is vital to running a RAS.

Sand Martin RAS projects were some of the worst hit by heavy rainfall, with several colonies failing and deserting.

In total, 163 projects submitted data for 2012 (see Table 1 pp 4–5 for totals by species). Last season saw the initiation of 29 new studies, including three new House Sparrow, two Sand Martin and one Pied Flycatcher RAS; almost half of these were able to collect substantial quantities of data in what was a very challenging first year. Historically, 152 projects have contributed to the construction of long-term trends in survival, the ultimate output of the RAS programme. Updated survival trends for eight species are currently included as standard in the BirdTrends report (ww.bto.org/birdtrends): Little Owl, Sand Martin, Swallow, Dipper, Pied Flycatcher, Stonechat, Wheatear and House Sparrow.

2012 survival trends

JOHN HARDING

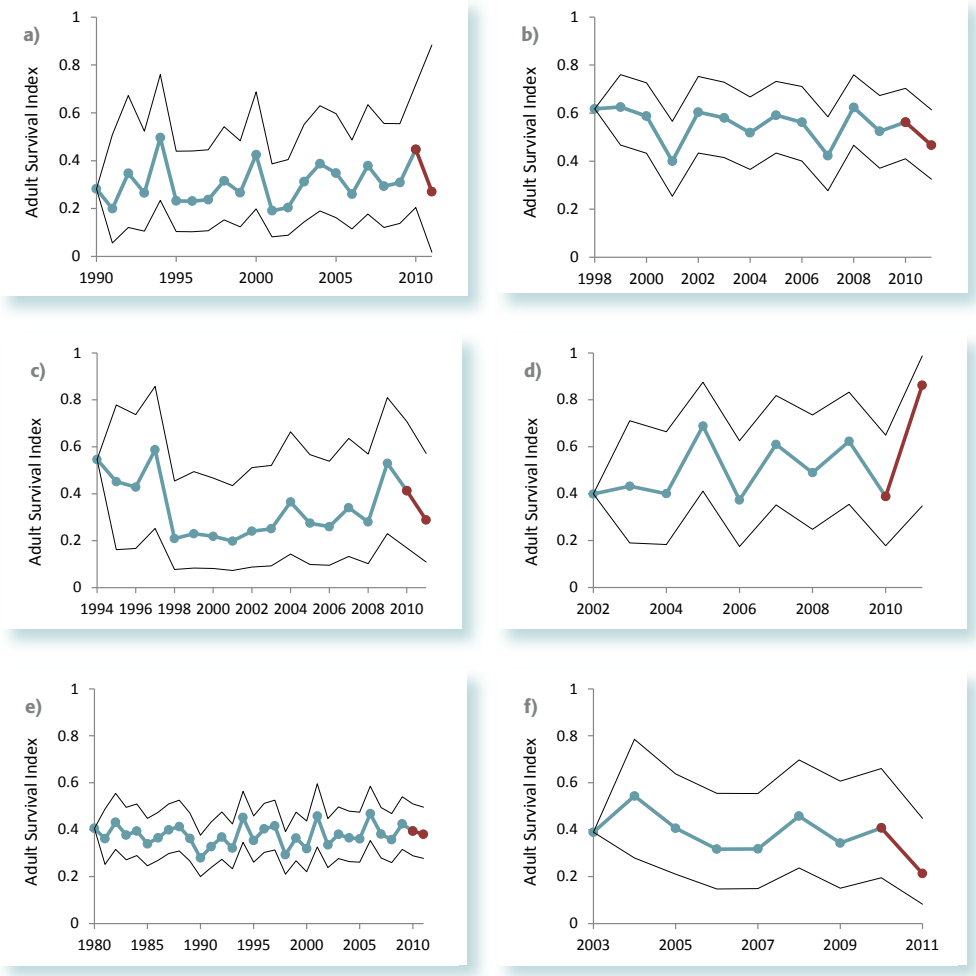

Figure 1. Updated survival trends for RAS focal species currently producing 'good' survival-rate estimates (see Table 1 pp. 4–5) a) Sand Martin (14 active projects); b) Swallow (5); c) House Martin (2); d) Dipper (6); e) Pied Flycatcher (20); f) House Sparrow (12). Blue line shows mean survival rate estimate, black lines represent 95% confidence intervals.

Survival-rate trends of the six RAS target passerines for which we hold the greatest volume of data are presented in Fig 1 (see pp 10–11 & 14–15 for more information on seabird trends). The relatively small errors around the estimates clearly illustrate the value of having multiple projects focused on the same species; however, if the behaviour of the species and nature of the site are conducive and the study design is robust, it may be possible to generate reliable trends from smaller numbers of projects (Fig 2).

The most recent point on each graph relates to survival between the 2011 and 2012 breeding seasons. The extent to which these estimates reflect the adverse weather conditions in June will therefore be limited, but some of the early season mortality resulting from high rainfall and low temperatures may have been captured in the estimates. Survival rates of Sand Martin, House Martin and Wheatear fell sharply, but the decrease was less marked for Pied Flycatcher and Swallow survival rates increased considerably. Resident results were a mixed bag, indicating similar numbers of increases (Little Owl, Dipper, Twite) and declines (House Sparrow, Stonechat).

Given the challenging nature of the 2012 season, it is reasonable to assume that adult condition was below average at the end of the summer. Did this result in increased post-breeding mortality, particularly for migrants facing a long journey to the wintering quarters, and to what extent was it countered by winter conditions (a wet growing season in Africa, a relatively mild winter in the UK)? Thanks to your hard work in 2013, we will be able to continue measuring these impacts.

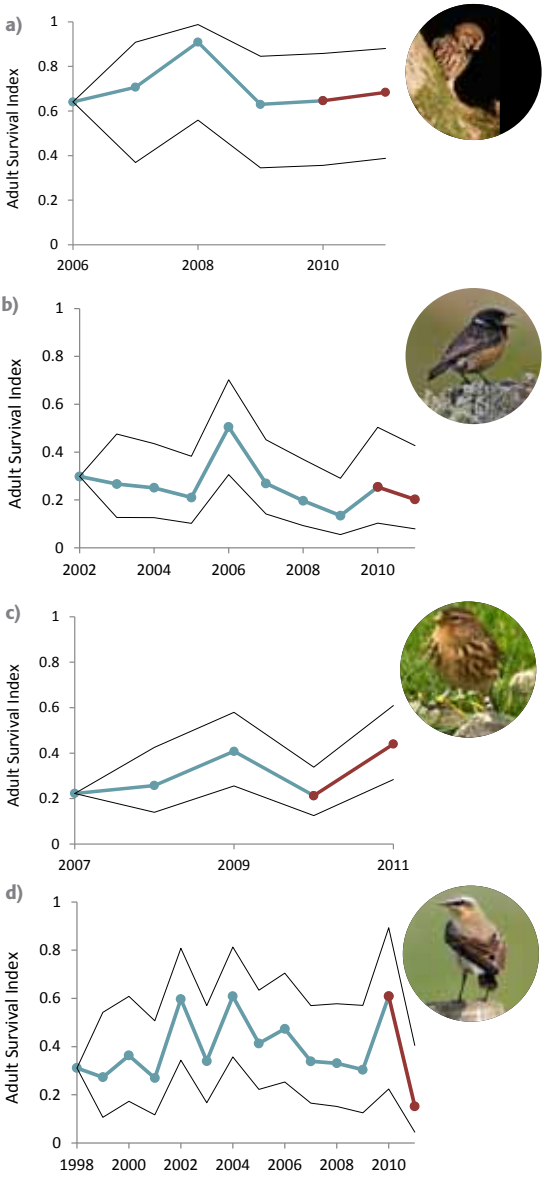

Figure 2. Current survival trends for species producing 'good' survival estimates from a small number of projects; a) Little Owl; b) Stonechat; c) Twite; d) Wheatear.

LITTLE OWL DEREK BELSEY & CLIFF REDDICK, TWITE GRAYSIMAGES, WHEATEAR AMY LEWIS, STONECHAT JILLPAKENHAM

RAS project summary 1999–2012

Table 1 summarises the number of RAS studies that have submitted data since the survey began in 1999, although some of the survival trends produced start many years prior to this thanks to the submission of historic information from long-term studies. The current record-holder is Dave Boddington's Pied Flycatcher study at Shobdon Hill, Herefordshire, for which the data run stretches right back to 1968, an incredible effort. If you'd like to initiate your own 45-year study on this species then you might be interested in John High's article on box traps on pp 8–9 of this newsletter. Over the past few years, we have become increasingly proactive in contacting ringers whose annual data submissions for core species hint at the potential for a retrospectively registered RAS, but if you think you have historic data that might be valid for the scheme and haven't been asked, please do drop us a line at ras@bto.org.

Table 1. Summary of active and historic RAS projects. Target species are shown in red; species marked (r) are those for which regional trends could potentially be produced with the addition of a few more studies. The number of projects contributing to the annual trends include both historic and active studies; a '+' sign indicates an increase in the number of studies used to generate trends in 2012.

Species	Projects contributing to survival trend	Active in 2012	New in 2012	Survival-trend quality	Mean survival rate
Eider	4	1		Moderate	0.82
Manx Shearwater	2	2		Good	0.90
Storm Petrel	5	5		Good	0.87
Shag	3	1		Moderate	0.87
Sparrowhawk	0	0		n/a	0.69
Kestrel	0	0		n/a	0.69
Moorhen	0	1		n/a	0.62
Little Ringed Plover	0	1		n/a	0.55
Ringed Plover	1	0		Good	0.77
Dunlin	1	0		Uncertain	0.74
Common Sandpiper	2	1		Good	0.84
Kittiwake	2	2	1	Moderate	0.94
Black-headed Gull	0	2		n/a	0.90
Lesser Black-backed Gull	2	2		Good	0.91
Woodpigeon	0	1	1	n/a	0.60
Collared Dove	0	1	1	n/a	0.64
Guillemot	1	2	1	Moderate	0.94
Razorbill	2	3		Good	0.90
Puffin	1	1		Moderate	0.92
Barn Owl (r)	2	2		Uncertain	0.72
Little Owl	1	1		Moderate	0.65
Tawny Owl	0	0		n/a	0.73
Swift	1	0		Uncertain	0.80
Chough	0	1		n/a	0.80
Jackdaw	2	3	1	Uncertain	0.69
Firecrest	0	2		n/a	0.14
Blue Tit	1	1		Moderate	0.53

Species	Projects contributing to survival trend	Active in 2012	New in 2012	Survival-trend quality	Mean survival rate
Great Tit	4	4	1	Good	0.54
Willow Tit	0	0		n/a	0.63
Marsh Tit	1	2		Uncertain	0.47
Bearded Tit	2	3	1	Moderate	0.55
Sand Martin (r)	+20	14	2	Good	0.30
Swallow (r)	7	5		Good	0.37
House Martin	5	2		Good	0.41
Wood Warbler	0	2		n/a	0.30
Willow Warbler	2	2	1	Good	0.31
Whitethroat	3	1		Moderate	0.39
Sedge Warbler	2	4	1	Moderate	0.22
Reed Warbler	7	8	1	Moderate	0.56
Starling (r)	2	2		Moderate	0.68
Dipper	3	6		Good	0.54
Blackbird	2	2		Good	0.65
Song Thrush	1	0		Uncertain	0.56
Robin	2	2		Uncertain	0.41
Nightingale	0	1		n/a	0.46
Pied Flycatcher (r)	26	20	1	Good	0.47
Redstart	0	1		n/a	0.38
Whinchat	1	1	1	Moderate	0.47
Stonechat	2	2		Good	0.46
Wheatear	2	*2	1	Good	0.46
Dunnock	+2	2		Uncertain	0.47
House Sparrow (r)	+7	12	3	Good	0.57
Tree Sparrow	+1	1		n/a	0.43
Tree Pipit	0	3		n/a	0.42
Chaffinch	+5	4	1	Moderate	0.58
Greenfinch	1	1		Moderate	0.44
Siskin	4	6		Uncertain	0.46
Linnet	0	1		n/a	0.37
Twite	1	1		Good	0.37
Bullfinch	+4	5		Moderate	0.41
Hawfinch	0	3	1	n/a	unknown
Yellowhammer	0	2		n/a	0.53

The studies that were new to the scheme in 2012 are highlighted in a separate column in Table 1. It's particularly encouraging to see novel projects being registered for established RAS species, such as Sand Martin, Pied Flycatcher and House Sparrow, along with several for those with more restricted distributions, including Wheatear and Whinchat. A new Hawfinch project will potentially allow us to calculate Hawfinch survival rates for the first time (Table 1).

Tree Sparrow is trending

The number of projects contributing to survival trend production, rose for five species in 2012 due either to existing projects reaching the five-year threshold for inclusion or to the submission of historic data. It's fantastic to see Tree Sparrow join the list of species for which we can produce annual estimates – it's early days as yet, so the trend is still categorised as 'Uncertain' due to the large errors around the estimates, but with

the addition of data from a few more projects, this uncertainty is very likely to decrease. House Sparrow and Sand Martin both benefited from the addition of extra projects, producing trends classified as 'Good' (see Figs 1a and 1f on page 2), as did Chaffinch and Bullfinch, which both produce 'Moderate' trends.

It is perhaps slightly surprising that there are not more Tree Sparrow studies, given the success and continued expansion of the House Sparrow RAS network. While birds may become net shy relatively quickly, reducing retrap rates, the use of colour rings to identify birds coming to artificial bait has the potential to generate large numbers of resightings each year. Recent trials undertaken by Ken Smith have suggested that they may also be a good species to monitor via the use of passive integrated transponder (PIT) tags, which register individuals passing close to receiver loops placed either on feeder perches or around nestbox entrances.


Tree Sparrow

RON MARSHALL

PIT tags also enable the adults responsible for individual nesting attempts to be identified, allowing the number of breeding attempts per bird and the interval between attempts to be measured. While it is vital to account for both of these parameters when investigating causes of population declines, there are very few data currently available, so this type of study really would break new ground. Knowing which adults were responsible for which broods would also allow the influence of parental characteristics (size, age, etc) on breeding success to be assessed; do first-year birds have smaller broods, or do they make fewer attempts per season? At present, PIT-tag technology is relatively expensive, but equipment is likely to become progressively cheaper. For some species, it may also be possible to achieve a similar result using a combination of colour rings and video cameras, an approach which is currently being trialled in Reed Warbler studies in Norfolk (Dave Leech & Lee Barber, using Interrex engraved Darvics) and Cheshire (Gillian Dinsmore, using unique combinations of colour-rings).

Species gaps and potential for regional trends

The inclusion of species on the list of RAS targets (highlighted in Table 1 pp 4–5) was dependent on i) the ability to mark large numbers of adults, ii) the probability of encountering those adults again in future years, iii) the availability of existing survival data (CES already generates survival trends for c. 20 species), and iv) the existence of good abundance and/or productivity data, allowing population models to be constructed. Sand Martin, Pied Flycatcher and House Sparrow are all species for which RAS has really taken off and we would welcome additional projects – while the existing network allows us to generate accurate trends at a national scale, inclusion of more studies would enable us to explore regional and habitat-based variation in survival, potentially shedding further light on the causes of declines.

Tree Sparrow has already been mentioned as a surprising gap in coverage, but the same could be said of Barn Owl, Swallow, Starling and Dipper, all of which are ringed as adults in good numbers, yet are the subject of relatively few active studies. It would be fantastic to include more information in *RAS News* and on the

Year 1
- 60 new birds ringed

Year 2
- If the survival rate is 0.5, 30 of these birds will remain from Year 1.
- If the re-encounter probability is 0.8 (80% of birds present are retrapped/resighted), then 24 of these birds will actually be included in your RAS data set.
- 50 new birds ringed

Year 3
- If survival rate is 0.5, 12 birds will remain from Year 1 and 25 will remain from Year 2.
- With a re-encounter rate of 0.8, this gives a sample of 30 birds retrapped/resighted.

Table 2. Worked example showing influence of survival rate and re-encounter rate on sample sizes.

website about the methodologies used for these species, so any articles on individual projects would be much appreciated; contact ras@bto.org for more information.

Planning your RAS using survival rates

This year we've included mean survival rates in Table 1 (pp 4–5) to help those readers who are planning to start new studies; Figure 1 gives us a worked example. Ideally, a RAS project should aim to re-encounter 30 adults each season. If the annual survival rate is 0.5, then we would expect half the birds ringed in Year 1 to be present in Year 2. An initial sample of 60 birds would therefore be sufficient to provide high-quality data, provided it was possible to capture all of those present in Year 2. While some projects come close to a 100% capture rate (see pp 8–9 for John High's account of his Pied Flycatcher study), the likelihood is that some adults will be missed, either because they cannot be retrapped or resighted, or because they have relocated to a different area, so the probability of re-encountering birds also needs to be taken into account. However, from Year 3 onwards, the sample will be boosted by birds surviving from Year 1, so the number of new birds that need to be ringed each year will decrease as the project progresses.

Site-specific survival trends

Another development in 2013 has been the automation of the process for constructing site-specific trends. For those studies in which the sample sizes are sufficient to produce site-specific survival estimates, these will be sent to the ringers involved as soon as they have been calculated as a means of providing feedback on the progress of the project. If survival trends vary little between sites, the errors around the site-specific estimates will be greater than those around the combined national estimate due to the smaller sample sizes. However, if the trends for individual sites are very different, as is currently the case for Barn Owl and Starling (Fig 1), then the errors around the combined national trend will be greater. Why should the results differ so markedly for these species? Exploring this regional variation and relating it to variation in population sizes is a crucial next step for the RAS scheme.

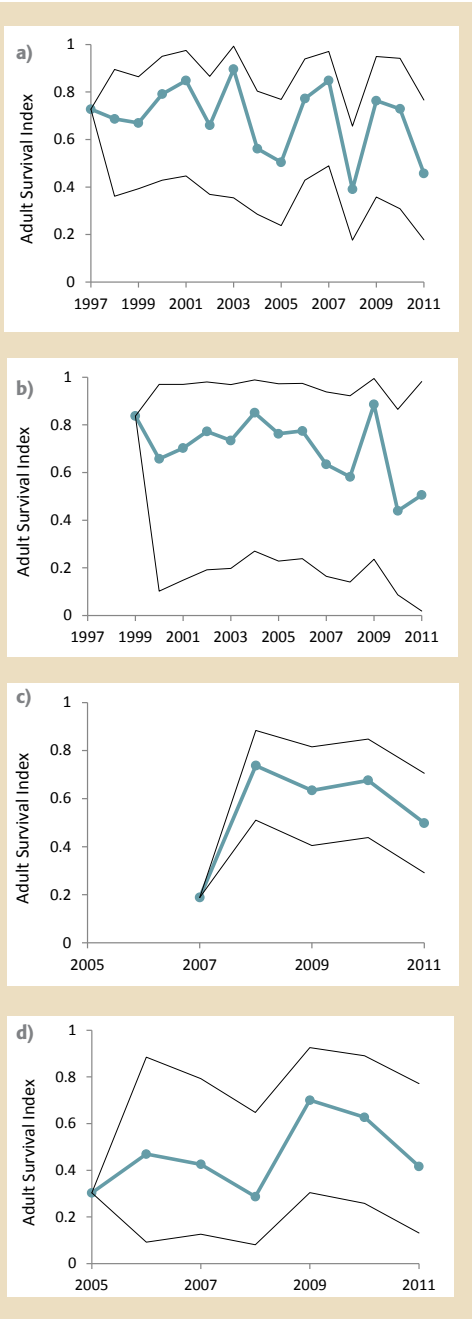

Figure 1. Site-specific trends for Barn Owl in (a) Wigtownshire and (b) Lincolnshire, and Starling in (c) Langley Upper Green and (d) Montrose.

Pied Fly fishing

John High has adapted his catching technique to achieve a close-to-100% encounter rate with his Pied Flycatcher RAS – here's how he achieves it

EDMUND FELLOWES

My main nestbox scheme started at Rifton Wood in Devon in 1983 and has gradually increased to 102 boxes, mainly positioned in groups of three. In 2012, I had 23 successful pairs of Pied Flycatchers and caught 45 adults. My one failure was a twitchy male which kept coming to his box, eventually peering inside a few times (with me cursing the midges attacking me) and then leaving for a nearby branch. Here he waited for the female and then passed the fly or caterpillar to her before flying off and waving the birdy equivalent of two fingers at me!

Between 50% and 75% of females are lifted off the eggs or small pulli for ringing. The remaining females and all males then have to be trapped without interfering with the feeding activity of a previously trapped bird. I have used various methods of closing the hole using a draw cord and various 'plugs' – half a squash ball and even a grubby rolled up snotty! I then moved to a vertical sliding frame inserted inside the box: which works fine unless the piece of card slips away from the hole as tension on the line relaxes while you're approaching to recover the bird.

Eventually I settled on a horizontal sliding trap fired by striking with a sawn-off fishing rod from 20–30 yards range (Fig 1). Each trap requires:

- 2 x 5″ lengths of aluminium (or plastic) channel
- 5 x ½″ screws
- 1 small screw-eye
- 1 2″x 2″ piece of formica or similar to form the door
- 1 x 18″ length of shelf string

The lengths of channel are screwed above and below the nestbox entry hole on the outside of the box (Fig 2). Two holes are then drilled in the formica. The first, located in the centre of the left-hand side, about ¼″ from the edge, is to take a screw used as a safety fitting to prevent any chance of wind shaking the slide across the box entrance when not in use. The second,

located in the bottom right corner, about ½″ up and ¼″ in, is used to attach the shelf string; this then passes through the screw eye which is fixed to the box at the same level, acting as a runner for the cord and as a stop to prevent the slide being pulled right off the box.

Having attracted a Pied Flycatcher tenant to my box, I bring the fishing rod into use by attaching it to the box mechanism using a bit of ring string plastic (blue string used for AA rings is ideal – I don't use yellow or green as birds believe it to be a caterpillar and self-fire the trap!). Having moved the slide to the side, I lay my ladder on the ground a few yards from the box and move 20–30 yards up the Bluebell-covered slope. Here I wait for the target bird to oblige and enter the box, then strike with a sharp pull on the rod and stroll down with a smug smile on my bearded face!

Patience and a bit of luck is required to get good coverage. It is amazing how often you will find that bunch of leaves will blow into your line of sight just as a bird is at the hole and possibly about to enter!

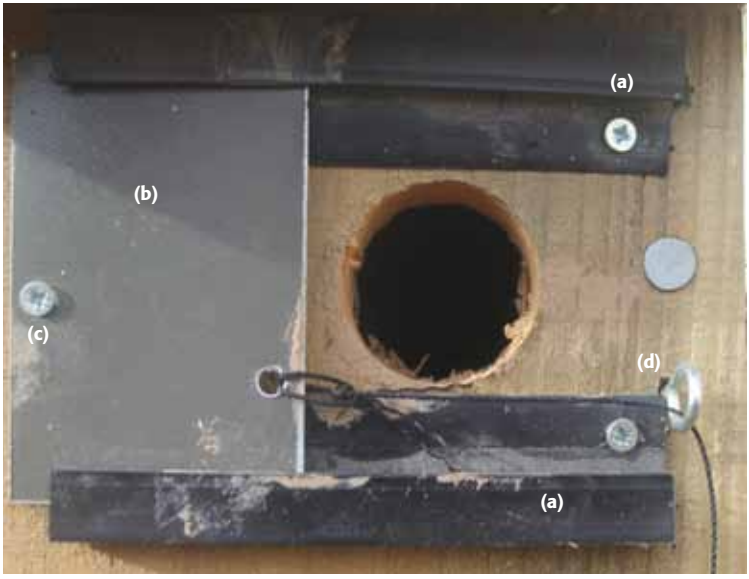

Figure 1 (above). John's system, showing the sliding trap door triggered using the line attached to the fishing-rod spool. Figure 2 (right). Close-up of the trap-door system showing a) the black runners running horizontally above and below the hole, b) the formica door with c) safety screw to which the line is attached and d) the screw-eye which acts as a runner.

Here's one I made earlier: the Landguard gull RAS

Mike Marsh explains how Landguard Ringing Group have adapted their long-running Lesser Black-backed study into a successful RAS

Orfordness is situated on the Suffolk coast and consists of a 10-mile long vegetated shingle spit, marshes and lagoons. The site was formerly used as a top-secret military test site but is now owned by the National Trust. Lesser Black-backed Gulls started breeding here in the 1960s and numbers rapidly increased, reaching a remarkable total of 19,700 pairs in 1998. Since then numbers have declined dramatically, although in the last few years the population has stabilised at around 550–640 pairs; the falling numbers are due, at least in part, to predation and disturbance by foxes.

MIKE MARSH

All ring-reading is carried out from a vehicle in order to reduce disturbance; a telescope with a 20x60 zoom is an absolute must.

Landguard Ringing Group ringed their first gull pulli at Orfordness in 1984 and have continued to do so ever since. To date we have marked just over 10,000 Lesser Black-backed Gull chicks; originally the birds were simply ringed with conventional BTO metal rings but, in 1996, we started a colour-ringing project and since then all birds (nearly 4,500 individuals) have also been fitted with an individually coded Darvic. The colour-rings that we use in our project are red with a white inscription of three or four letters.

The use of colour rings has greatly increased the amount of data that we are able to collect. When just metal rings were used, the birds that we received recoveries for were invariably found either dead or injured. It was a revelation when we started using the coded colour rings because, with a good telescope, the rings could easily be read in the field and we did not have to rely on the bird dying before we got a recovery! Suddenly we were getting multiple records for birds and were able to build up some impressive life-histories; our current record holder is a Herring Gull that has amassed an impressive

Suddenly we were getting multiple records for birds and were able to build up some impressive life-histories...

MIKE MARSH

A Lesser Black-backed Gull in a ring-reading position. Carefully thought-out observation plans optimise the available time for ring re-sightings.

260 sightings. We were also able to identify individuals that had been ringed as chicks returning to the colony to breed in later years. Soon we had collated hundreds of sightings of these returning birds and were seeing at least 70 individuals each year.

It was Greg Conway who suggested that, with such a wealth of data, we should consider starting a Lesser Black-backed Gull RAS project, so that is what we have done. In order to expand the project we have also started to nest trap, and colour ring a sample of the breeding adults and in the last three years have marked a total of 94 fully grown birds.

The nest trapping of adults and ringing of the pulli is, however, only a small part of the work involved, and far more time is spent on the reading of the colour rings on the gulls in and around the colony. Most of the birds that now breed at Orfordness are concentrated in a large area of tussocky grassland that is criss-crossed by brackish ditches, separated from the sea by a wide expanse of open shingle beach. Reading the colour rings on gulls that are in the main part of colony is very hard because of the difficult terrain; the depth of the grass tussocks means that the legs of the birds are rarely visible. Fortunately there is a track that runs parallel to the sea, between the beach and the colony, that gives us good viewing opportunities in two areas. On the seaward side of the track, the open shingle is a favourite loafing area, especially in the late afternoon. The colony is also surrounded by a derelict wooden fence, a remnant of the site's military past, and in the breeding season the gulls often perch on here in large numbers, ensuring that any colour rings are easy to spot and read.

We visit the site at least two days a week during the breeding season (March to August) and the gulls are usually checked for colour rings in the vicinity of the colony twice during each visit, typically once in the morning and again late afternoon. Ring reading is much more productive at these times because:

1 There are more gulls present as fewer are away from the site feeding

2 The light is much better for reading rings at a distance – in the middle of the day the rings codes on birds, even those that are relatively close, cannot be discerned due to heat shimmer.

We have found that contributing to the RAS scheme has been extremely rewarding and feel we are getting much more from our historical data than we would have done otherwise.

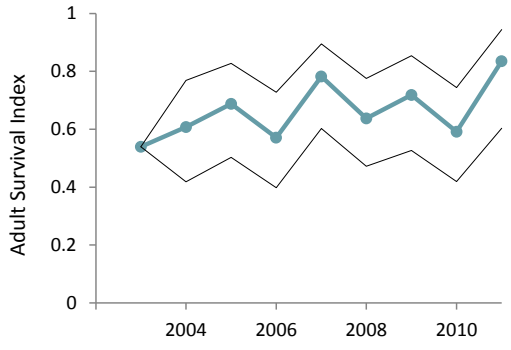

Figure 1. The survival graph for the Landguard Lesser Black-backed Gulls shows the success of the project; typically, at least 80 adult birds from previous years are resighted, giving high-quality survival estimates.

House Sparrows in the Hebrides

Ian Thompson and Yvonne Benting report on the preliminary findings from their House Sparrow RAS

Since our RAS project began in November 2010, 441 House Sparrows have been colour-ringed within our study area here in Askernish, South Uist. A total of 210 birds were ringed in 2012, of which 183 were juveniles. When the RAS season ended, we had managed to amass a total of 3,783 field observations taken during the five-month period, April to August.

The RAS team. From left to right; Yvonne Benting, Ian Thompson and Bill Neill.

Breaking these data down to their simplest form, this year's flock consisted of 57 adults who have remained within the study area from previous years, an increase of three on 2011. They were joined by an additional 19 newly marked adults, the vast majority of these being caught during bad weather in a period when they were probably feeding chicks in the nest. These birds could therefore have had to venture a little further afield, attracted here by the food we provide, a hypothesis borne out by the fact that these individuals are very rarely, if ever, seen again.

As for juveniles, the number caught and colour-ringed increased from 81 in 2011 to 183 in 2012. This is in part explained by some additional effort by us, but is mainly due to an exceptional breeding season, with many pairs double-brooding.

Numbers peaked in July, when a total of 160 individuals were recorded here in Askernish. This fell away sharply in August, probably due to dispersal and also the presence of one, sometimes two Sparrowhawks in the immediate area. The majority of the juveniles have now dispersed and most will find pastures new.

September and October is a time when we experience an influx of new birds into our study area, as juveniles from other sites disperse and integrate with local populations. It is also the time when we hope to hear about sightings of our birds from elsewhere. Sightings away from our study area during 2012 far exceeded those of the previous year and involved some 29 birds. The majority of sightings involved this year's juveniles, unless otherwise stated.

As can be seen from Fig 1, they were reported from seven locations, ranging from

Balranald in the north to South Glendale in the south. Three sightings on North Uist involve a journey of over 43 km, which for a House Sparrow is considered to be a long-distance movement.

There were reports of sightings from a further four locations on South Uist. One is of particular interest as it is the only adult bird (a second-year bird, ringed as a juvenile in 2011) that has been recorded as changing locations, although its whereabouts between leaving Askernish in July 2011 and arriving in Carnan remain a mystery.

For whatever reason, South Glendale would appear to hold a special attraction for the House Sparrows of Askernish with 21 individuals now reported, all juveniles arriving in their first autumn.

The 2012 season was a good one for our House Sparrows and our project, which we hope will continue into 2013.

Our thanks go to Bill Neill for the time and effort he expends helping us with this project. His records are always concise and accurate and the project would be all the poorer without him. I also thank all those who took the time and trouble to report their sightings to us; it is very much appreciated.

For more information about this project see www.curracag-wildlifenews.org.uk/viewtopic.php?f=3&t=677.

Map of Uist showing Askernish (in pink) and the dispersal locations of juveniles (in yellow).

The main ringing site; over 80% of the birds are caught in walk-in ground traps.

Bill Neill is a wildlife artist who is primarily a naturalist and secondly a birdwatcher. He is Ian and Yvonne's next-door neighbour and his garden where he records the sightings is some 200 yards away. He contributes 40% of the sightings, including many of birds never seen again by Ian and Yvonne. His input on this project demonstrates how RAS projects can be greatly enhanced by the recruitment of keen local birdwatchers acting as spotters. It is also worth considering encouraging photographers to take pictures of colour-ringed birds.

Understanding seabird survival: the role of experience

Rob Robinson, the BTO's chief survival analyst, outlines recent advances in the calculation of seabird demographic rates

Mention seabird ringing and it will elicit a variety of responses. Memories that come to my mind are the unique noise and smell – it's hard work, certainly, but also some of the best ringing I have ever done. Luckily for us, Britain & Ireland is home to most of Europe's seabirds; indeed, our colonies are of global importance, with a significant fraction of the world population of many species breeding around our coasts. At the same time, our marine environments are some of the most heavily exploited in the world. Monitoring the impacts of both the natural and man-made changes in the marine ecosystem is thus critical.

Over the last few years, the BTO has been working closely with the Seabird Team in the Joint Nature Conservation Committee's (JNCC) Aberdeen office to improve monitoring techniques. As seabirds are long-lived, declines in breeding success and survival are likely to be detected more rapidly than changes in numbers of adults, and so demographic monitoring is particularly important. There has been a lot of recent interest in seabirds, and the marine environment more generally, due to the introduction of the European Union's Marine Strategy Framework Directive (MSFD). This requires, amongst other things, Member States to protect marine areas and habitats and, more generally, to maintain them in 'good environmental condition'.

Breeding success of seabirds is largely monitored through the JNCC's Seabird Monitoring Programme and we have been working together to identify gaps in monitoring coverage. We have also been developing techniques to efficiently produce maps that summarise how well individual colonies are doing

Figure 1. Breeding failure in Kittiwakes in 2010. Each pie chart represents a colony. Colonies in red failed, fledging very few chicks, while colonies in green were successful; those in white were not surveyed. The dark segments indicate the proportion of years since 1986 when the colony failed. Northern colonies, particularly those in Shetland, are showing a worrying degree of breeding failure; southern colonies seem to be doing better, which may be relate to reduced fishing pressure.

(Fig 1). We are now working with JNCC to get such information adopted as one of the measures by which success of the MSFD is judged.

However, breeding success is, of course, only half of the story; changes in survival can also be a key driver of change in seabird populations, and this is where RAS comes in… Seabirds make ideal RAS study species as adults tend to be extremely site faithful, often returning to the same nest site each year. As they are relatively long-lived, one can build up really good capture histories for individuals across years. There is the potential to make a real contribution to our understanding of seabird populations; several RAS projects have provided data for scientific papers on this subject over the years.

So, what makes a good seabird RAS? One key consideration is study area. In most cases it will not be possible to monitor the whole colony, either because of time or issues with safe access. A successful project will focus effort on a well-defined area which is maintained between years. Ideally, one would monitor every nest in the study area but failing that, keeping effort consistent between years will be important. For colonies with a suitable vantage point, colour-ringing adults can make monitoring easier and cause less disturbance. An important consideration, especially if nests are vulnerable to predation while disturbed. Remember also that the best time for encountering adults may be earlier in the season than may be ideal for ringing chicks, and that there can be quite a bit of variation between years in the timing of breeding, which can be tricky if you are only able to make a single trip.

Perhaps because they are long-lived, seabirds are good learners. So, if they experience disturbance in one year, there is a good chance they will breed in a slightly different location the next. This 'experience' effect is commonly seen in seabird studies, with the apparent survival rate in the first year after ringing appearing lower than average. We have now incorporated this effect into the RAS analysis programs, and can start to generate improved estimates of annual survival.

Fig 2 shows the survival rate of Storm Petrels from five RAS studies. As is typical of seabirds, the average survival tends to be high with relatively little variation. However, years of even slightly reduced survival (such as 2006) can have long-term impacts on population trend, and it is these we hope RAS will identify in future, further contributing towards our understanding of seabird population change.

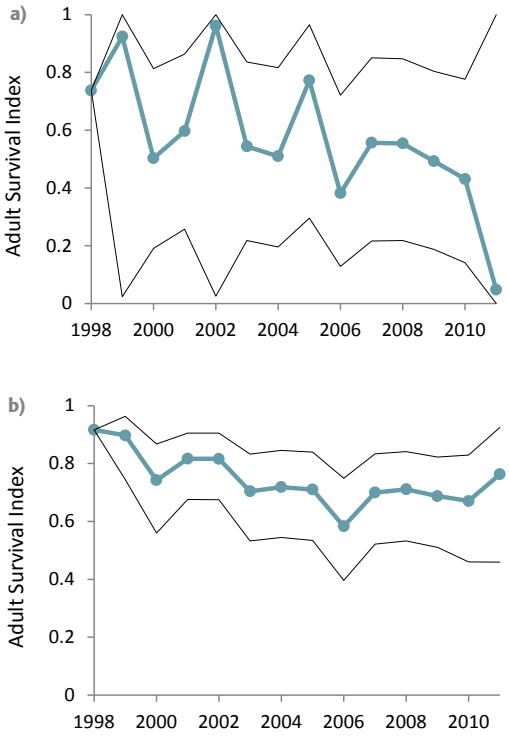

Figure 2. Annual adult survival rates for Storm Petrel from five RAS studies a) before and b) after the experience effect is taken into consideration.

RAS submission deadlines

Please do your best to submit your RAS data by **31 October 2013**. Early submission means that we have more time to check and analyse the data and can provide timely results.

Remember, to qualify for your 2013 RAS permit reductions and project support, your RAS submission files must be received by the RAS organiser by **28 February 2014**.

Data submissions should be sent to: **ras@bto.org**

Do you need extra help with your RAS project?

If your RAS project could do with some additional help from other ringers, please post a request on the BTO Ringers' Forum (see below), or contact the RAS Organiser **(ras@bto.org)**, who would be pleased to request help from ringers in your area.

BTO Ringers' Forum

If you have not already done so, please do join the BTO Ringers' Forum. This is a great way to obtain help and advice, and share experiences, on all manner of ringing and catching issues.

To join, please send an email (including your name and permit number) to: **btoringers-subscribe@yahoogroups.co.uk**

RAS News
Number 13, Spring 2013

RAS

The newsletter for the British Trust for Ornithology's Retrapping Adults for Survival scheme

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