



Barn Owls of South West Cumbria Monitoring Report 2010



by

Hilary Lange

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Hilary Lange
UK Conservation Officer

World Owl Trust
Muncaster Castle
Ravenglass
Cumbria
CA18 1RQ

Foreword

During the latter half of 2009, temperatures were well above average, but with November came heavy rain and winds. Much of Cumbria experienced severe flooding with torrential rainfall, totalling 379mm in 48 hrs at Seathwaite in SW Cumbria on 18th November. By mid December a cold north-easterly brought fronts down from the north, bringing snow, which continued into January with prolonged snow cover persisting in many areas. Temperatures remained cold into February, with March dominated by cool weather and April being one of the driest on record (Branson 2010).

2010 was predicted to be a year of increasing vole populations, according to the natural cycle which the species follows. With prolonged snow cover across many areas this should also have given vole populations a break from high levels of predation over the winter, as Barn Owls struggle to hunt successfully. Indeed elsewhere in the country in 2010, such as Kielder Forest, vole populations seemed to boom during the breeding season (Forestry Commission 2010), with Northumbria seeing extremely long periods of snow cover. This snow cover, however favourable for the field vole, had a positively devastating effect upon Barn Owl mortality in the North. Again Northumbria saw losses of over 100 Barn Owls, many typically juveniles at this time of year, with recoveries found and reported.

Cumbria

Whilst the snow cover could benefit voles across Cumbria, numbers were at risk from significant flooding in November, which was localised to Cumbria. This severe rainfall not only prohibited the Barn Owls from hunting, but also covered great swathes of marginal land running along river corridors. Many covering areas which in the northern portion of the West Cumbria Coastal Plain and the western edge of the Lake District Fells are strongholds for the Barn Owl.

This left much of the Field Voles habitat under water, wiping out large populations in one go. An event for vole populations which could take a considerable length of time to recover from, despite the winter respite. This set back in vole populations, coupled with high mortality of Barn Owls over winter, could spell a very slow recovery of Barn Owl numbers in Cumbria in the future.

Again, as with last season, low numbers of young were brought into the hospital, with a fledgling found starved in December and one very young chick found a long way from a nest site, in a residential area, believed to have been carried by a cat. Mid season the male of a suspected pair was found dead after flying into a climbing frame, unfortunately the outcome of the possible nest was not determined. The low numbers again possibly reflecting the low population size in the SW area.

Introduction

This report contains information on the status of 76 Barn Owl sites checked across the South West Cumbria monitoring area. This area was set out in the 2003 monitoring amendments to the county, by the Cumbrian Raptor Study group.

The sites were chosen in location clusters, out of a list of over 180. Some of these are historic sites, or roost sites only, but were still monitored due to a chance of re-colonisation.

Total number of sites checked

Overall out of the 76 sites checked, Barn Owls had made a breeding attempt at 28 (34%) of these sites. Out of these 28, 21 pairs (25%) successfully fledged 51 young owlets, with 2 sites failing to hatch and 5 sites with an unknown outcome.

This year, as last year, out of 76 sites, 20 were part of the baseline data set, from 2009 onwards.

N: B in the years 2006-2007 68 sites were chosen for the following reasons:

- There had been attempted breeding within the last three years
- They were historical sites with a high probability of occupation due to suitable habitat or used as a roost.
- They were replacement boxes installed for mitigation for previous successful nesting sites.

Some of these 68 sites are included in our baseline dataset for the last two years. They were not randomly selected from known Barn Owl sites because of practicality reasons, but neither were simply the most successful sites chosen. Breeding success of Barn Owls on a site was not a factor in deciding on a sites inclusion into the baseline 20.

20 Baseline Dataset Sites Alone

Out of the 20 baseline sites, Barn Owls had made a breeding attempt at 6 (30%). Out of these 6 sites, 5 pairs (25%) successfully fledged 12 young. Included in these 20 are 1 of the 2 sites mentioned above which attempted to breed and failed at the hatching stage and 2 of the 5 mentioned above, which had an unknown outcome, as 2 of the baseline sites were unable to be checked.

Out of all of the sites mentioned during 2010 (76), 5 were natural sites, either in a barn or in one case the external pipework of a building. 15 were external boxes with the rest being internal nest boxes. There are no natural tree cavity nest sites recorded in this report.

Method

The usual method the Trust adopts is to do two visits to each nest site. (this only occurred at baseline sites during 2010). The first being late March- early April and is usually based on reports of activity from the property owners. The purpose of this visit is to establish occupation of a nest site, rather than clutch size.

Clutch size is usually monitored for the BTO's BOMP (Barn Owl Monitoring Programme) and ringing purposes and it was to this end that nest sites were monitored for clutch size in 2010.

The second visit in June/July is to ascertain numbers hatched and to ring the chicks. During 2010 a BTO restricted C permit was granted toward the end of the season, which is why only a small proportion of the total number of fledged chicks were rung. Final fledging numbers more often than not come by word of mouth.

Due to licensing complications in early 2009, monitoring did not begin until June. This year monitoring was on track to start at the most appropriate time and due to the appointment of an Assistant Conservation Officer, the number of sites which were visited was doubled.

During April the majority of the 20 baseline sites were checked, with return visits made to some during May. The majority of the overall (21) successful sites had hatched young by late June, with only 1 pair still on eggs.

Results

The results shown in charts 1 and 2 include sites where a pair of Barn Owls was present, including those sites where the pair was unsuccessful in rearing young. This excludes sites which were unoccupied, used as roosts or used by other species.

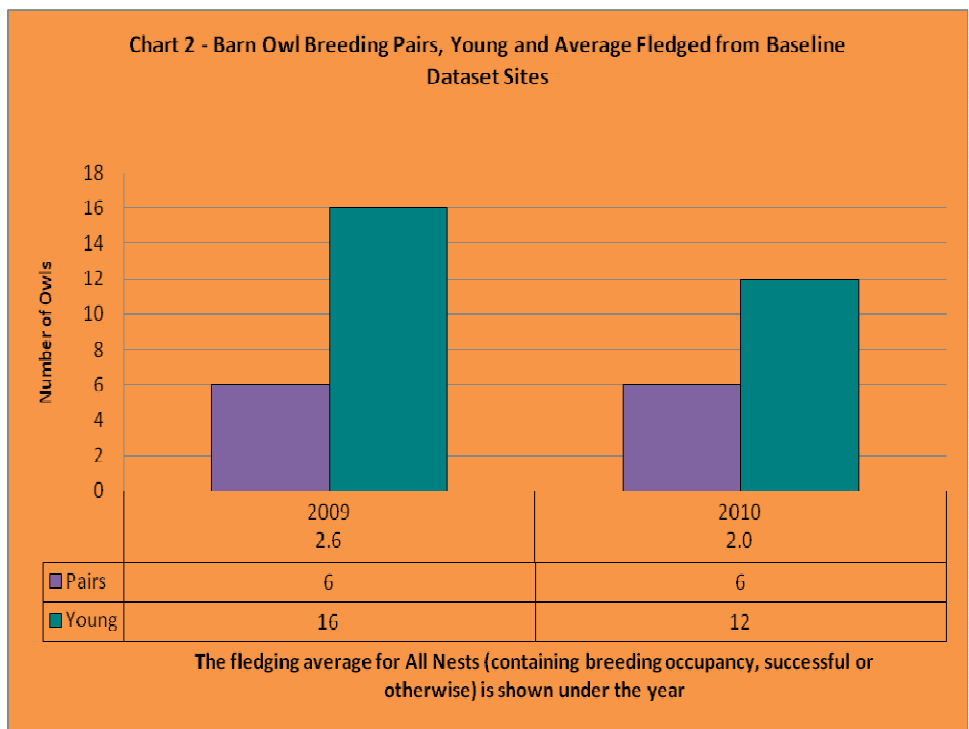
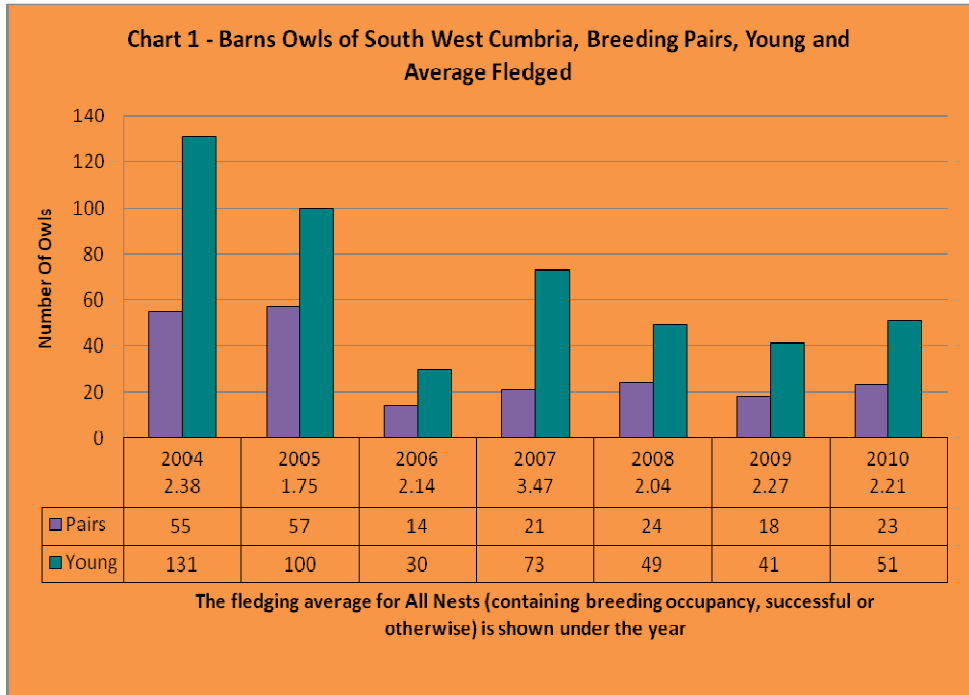


Chart 3 includes all sites monitored in 2010 (total 76) and Chart 4 includes all baseline dataset sites monitored in 2010 (total 20) regardless of type of use.

Chart 3 - Status of All Sites Monitored 2010

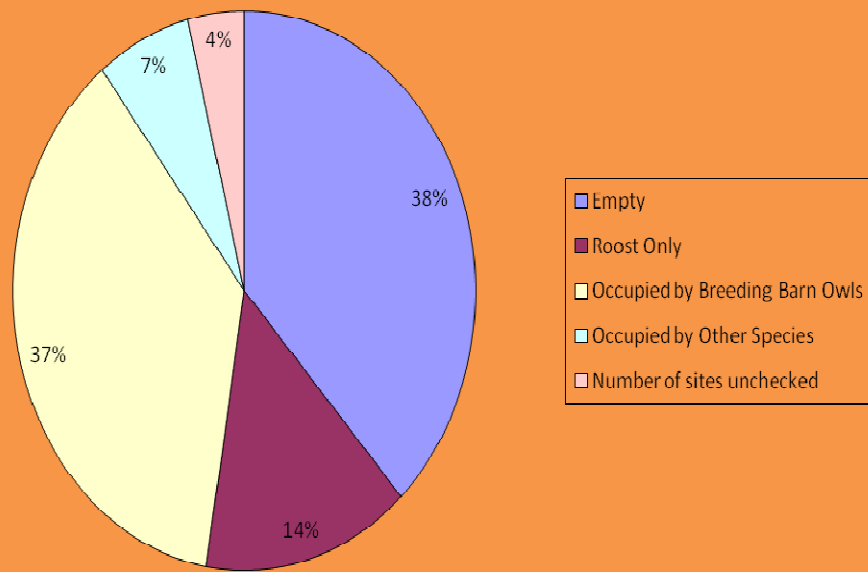
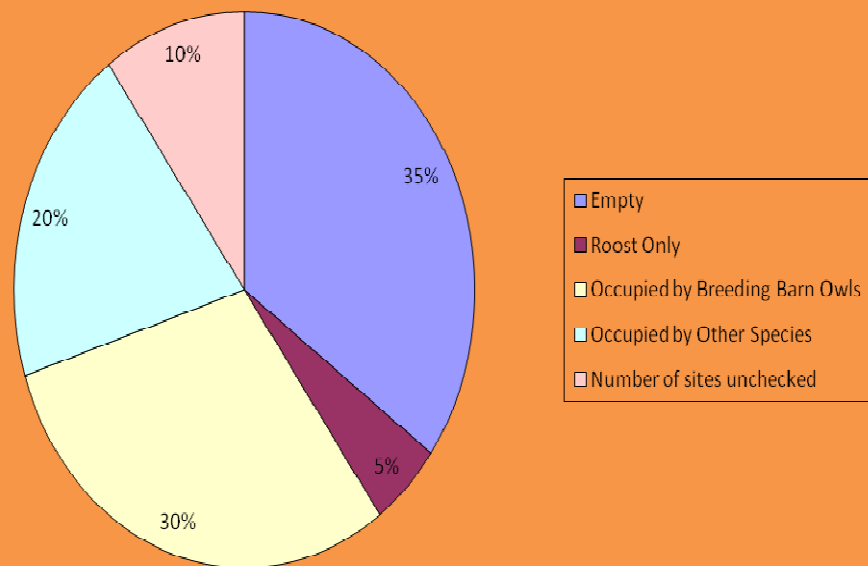


Chart 4 - Status of Baseline Sites Monitored 2010



Discussion

This report demonstrates that although more sites were checked this year than in 2009, the number of pairs attempting breeding (23) in 2010 would appear to be about average, if looked at in line with 2006 onwards. The same can be said of the baseline dataset, indicating that the number of pairs (6) coming into breeding condition out of the 20 sites in 2010 is average compared with 2009.

Direct Mortality?

With many historic sites found empty this year, this was thought to be as a result of direct mortality. However, the County Natural History Report shows no indication of higher than average mortality in 2009 and from the results of the baseline figures for 2010 showing an average number of pairs attempting breeding, it would indicate that the sites were not vacated as a result of direct mortality.

Reduced Productivity?

Although there appears to be an average number of pairs attempting to breed, the baseline figures also show that there was in-fact reduced productivity (as predicted by Shawyer) with the:

- number of pairs being successful in fledging chicks, down on last year
(2010 – 5, 2009 – 6)
- number of chicks produced overall being down on last year
(2010 – 12, 2009 – 16)
- average number of chicks fledged (from all nests, successful or otherwise) was down again on last year (2010 – 2.0, 2009 – 2.6).

If we also compare the average number of chicks fledged per successful nests (excluding any failures) we see that the figure for 2010 (2010 – 2.4) is still below the average (per successful nests) from 2009 (2009 – 2.6).

Low Vole Numbers?

Vole numbers were predicted to be higher this year than last, both from the natural cycle of the population and the break from predation during the long period of snow cover. However when analysing the results this has not been the case.

While other parts of the country have seen higher than normal levels of voles in areas such as Keilder, the already low vole numbers in SW Cumbria with the localised flooding on top, has appeared to result in low productivity for the Barn Owl. So while the snow here would offer some respite from predation, the effect of the flooding on the voles, meant that recovery would only have started to take place, just as the Barn Owls needed to come into condition.

Although early findings indicated that there would be a reduced productivity due to high mortality (with historic sites being found empty) the average number of pairs attempting breeding discounts this. Therefore the results would indicate that this year reduced productivity was due to the reduced

numbers in prey availability and days suitable to hunt at a crucial time of year, reducing breeding condition and therefore productivity in many pairs.

Looking to the Future

Overall numbers are low for SW Cumbria and although the rest of the country have found late breeders giving higher productivity overall for 2010, this is not a trend we witnessed in the SW Cumbria area, making 2010 a worse year for breeding than 2009.

Indeed productivity trends like this, in the past parallel previous harsh winters (more comparative to the winter we just experienced), but couple this with the possibility that recent flooding events are reducing availability of prey and the two together will have a large impact on the ability by the SW population to remain stable. If the Barn Owl is to beat the harsher winters, which often see birds at higher altitudes perish during prolonged periods of snow cover, then it must remain reliant on the lower level valleys, which inevitably follow river corridors. For this to happen we must hope that these large scale flooding events, do not become an annual occurrence.

BTO ringing of Barn Owl chicks did go ahead where possible in the SW region for 2010. However out of the 51 chicks fledged this year, only a handful were rung. This will begin to produce data in the future and with a C permit granted for 2011, it is hoped that many more birds will be rung next year. So far no recoveries have been reported from the birds rung in mid 2010. There has been mixed reports on mortality rates in 2009, from different counties, with Cumbria not having as high as we might have first thought, but all indication across the country as a whole, is that there will be reports of higher than average mortality as a result of the 2010 winter.

References

Branson, A 2010 *British wildlife*: Wildlife reports Volume 21 no 3. Broglia Press

Forestry Commission, April 2010 *Voles are booming in Kielder* [online] available at:
<<http://www.birdguides.com/webzine/article> > [accessed on 21st May 2010].

Hartley, C, *et al* 2009 A County Natural History Report *Birds And Wildlife In Cumbria*
January – December. Stramongate Press